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ABSTRACT

This document contains the proceedings of the January 1965 Annual meeting of the National College Physical Education Association for Men (NCPEAM). In addition to the special addresses given at the meeting, the proceedings contain speeches on the following topics: (1) research, (2) intercollegiate athletics, (3) history of sport, (4) teacher education, (5) basic instruction, and (6) intramurals. The research areas discussed include the relationship between physical activity and coronary heart disease and the effects of specific social-incentive conditions on performance on physical fitness tests. Also included are the president's report, financial reports, minutes from the previous meeting, and reports from the Standing Committees, ContinuingCommittees, Joint Committees, and the President's Committees. The Constitution of the NCPEAM and lists of honorary members and active members complete the document. (CD)

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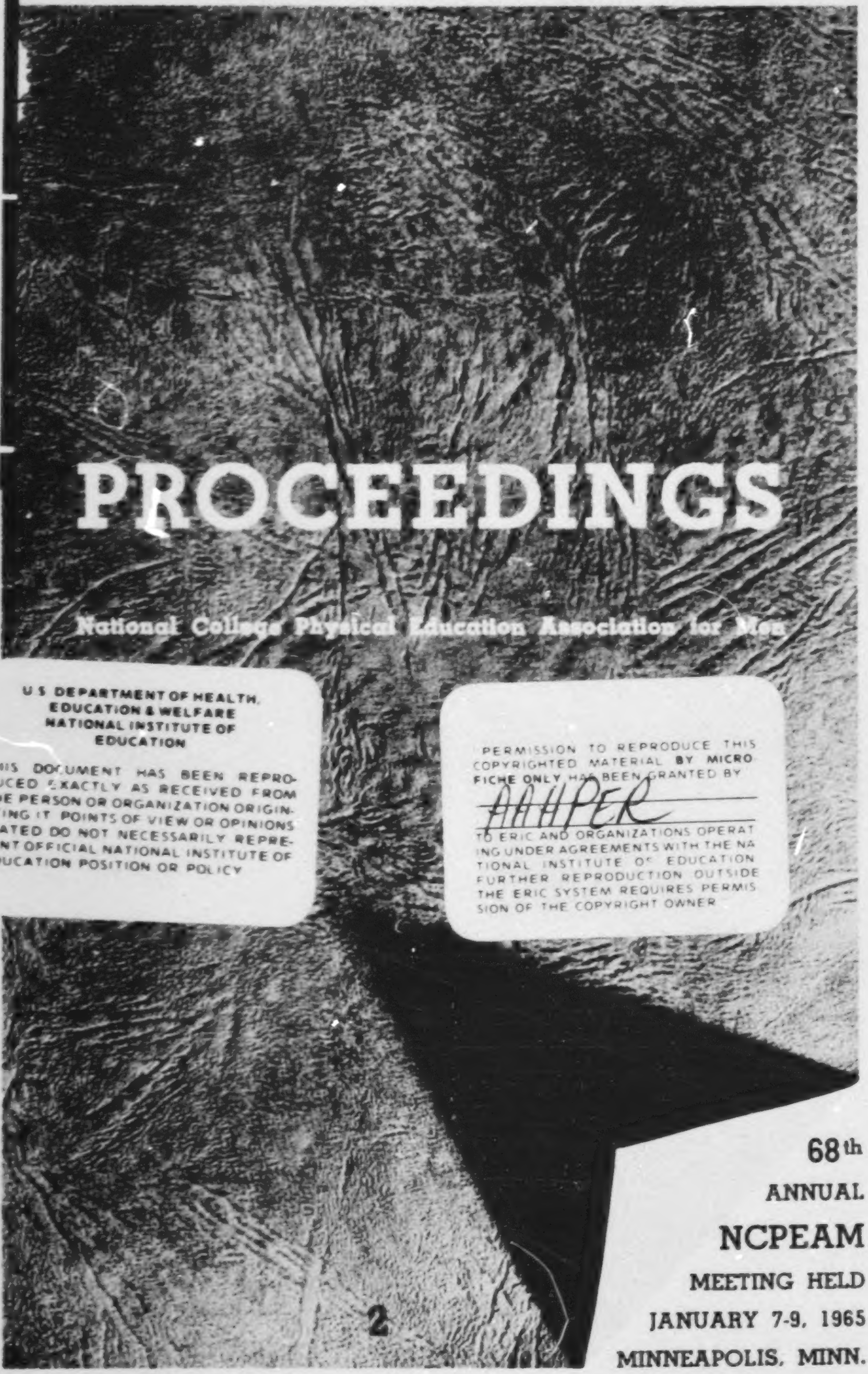

PROCEEDINGS

National College Physical Education Association for Men

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68th
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SPECIAL ADDRESSES

An Education Dean Looks At Physical Education

Robert J. Keller
University of Minnesota

The topic of this talk needs some background and perspective. In the first place, the topic really needs another word. Instead of "An Education Dean Looks at Physical Education" the topic should read "A *New* Education Dean Looks at Physical Education." This is important. I will have held this post 8 months tomorrow. Of course, there may be no right period for an education dean when he talks about physical education.

Nevertheless, the topic is worthwhile, if only because it raises issues and causes all of us to think about relationships between professional education and physical education. Again, some background is needed here. Not only does the University of Minnesota have a neophyte Dean for the College of Education but also a recently reorganized structure for physical education and intercollegiate athletics.

The Situation at the University of Minnesota

We have established a School of Physical Education with Richard J. Donnelly as director. This school is tied into the structure of the College of Education but also has a direct relationship to Vice President Stanley J. Wenberg, Vice President for Educational Relations and Development. A parallel tie is maintained with the Director of the Department of Intercollegiate Athletics, Marshall Ryman, who is directly responsible to Vice President Wenberg and not to me. He heads the total intercollegiate athletics program and may well speak of his relationships and responsibilities when he addresses you on the topic, "An Athletic Director Looks at Physical Education." This would help to provide a rather full view of our situation except for the fact that a third partner, Holger Christiansen, also serves under Donnelly and Ryman as Athletic Finance and Facilities Coordinator.

The existence of this third partner by no means indicates that we have problems of space, facilities, and finance under control. This is not true. Our School of Physical Education receives a portion of its support from intercollegiate athletics. Our intention is that of transferring support for the School of Physical Education entirely to the maintenance budget of the University, making the School a regular member of the University family within 5 years. In my judgment we will have real difficulty in doing this but might well be forced so to do by reason of fluctuations in intercollegiate athletics income and of our very drastic need for physical facilities.

My association with physical education is related to these matters. I currently serve as a member of a central Committee on Program, Facilities, and Financial Planning. Two subcommittees serve this overall committee—one on finance and facilities, chaired by Ryman, and one on program, chaired by Donnelly. We are attempting to assess our present situation and to anticipate needs for the years ahead. We have very serious problems of land acquisition and assignment plus development of facilities which will

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[1] Bibliography may be obtained from the author upon request.

be needed. This University now enrolls more than 38,400 students; we will, under conditions of controlled growth, enroll 42,000 students next fall. By 1970 we expect to enroll 52,000 students and by 1975 62,000 students. Some will be enrolled on our Duluth and Morris campuses, but the great bulk will attend our two Twin Cities campuses—the larger one in Minneapolis, the smaller in St. Paul.

The Program in Education. Within the University of Minnesota the College of Education enrolls approximately 2,700 undergraduates and about 900 graduate students. About 1 student in 10 within the University is enrolled in a College of Education program at either the graduate or undergraduate levels. In like fashion the School of Physical Education, in its program of physical education for men and women, school health education, and recreational leadership, enrolls approximately 1 student out of every 10 registered in the College of Education. This fall, for example, we enrolled 230 students in physical education and 111 in recreational leadership. The School enrolls 84 of our 196 freshmen and 46 of our 278 sophomores—the majority of our students entering the College of Education as transfer students from other colleges at the beginning of our junior year.

You may be interested in knowing that the College of Education admitted 68 percent of the applicants who sought to transfer in fall 1964. The comparable percent for physical education majors was 55 percent; for recreational leadership, however, the percent was 82 percent. The School of Physical Education is thus somewhat more selective than the College of Education as a whole on admission of transfers to programs with physical education majors but less selective for recreational leadership.

Controlled Growth. You may also be interested in knowing that the College of Education is one of three colleges involved in the University's policy of controlled growth—no expansion beyond 42,000 for fall 1965 and none beyond 44,500 for fall 1966. Because we enroll so few freshmen we are not involved at this level for fall 1965, but our feeder colleges, General College and the College of Liberal Arts, are. We are seriously concerned with ways in which we respond for subsequent years—both to new students and to transfers. In this instance our standing Committee on Student Personnel is asking some very serious questions of each department within the college, including physical education.

These are hard questions. We are reconciled to living with a policy of controlled growth because we know we cannot keep up with physical facilities or with faculty personnel on any other basis. We are asking physical education, for example, to review policies governing freshman admissions in light of the purposes of admitting students at this level and at current retention rates. We are also asking questions about transfer policies and the optimal number of undergraduate and graduate students who should be enrolled in each program in light of our presently allocated staff, space, and facilities. We also want to explore alternatives and the anticipated effect of proposed changes on the total pattern of teacher preparation in the state.

The description provided thus far is intended primarily as background with which you see the perspective this dean has in approaching physical education. It also provides some insight related directly to my topic. Within this framework, I would like to turn to some specific aspects of physical education.

Organizational Problems

The first of these concerns the very matter which I have been discussing, the administrative organization for physical education. Here the issue is simply one of asking whether physical education really belongs in a college of education or somewhere else—attached to an arts college, an independent school or college, or a divided structure—the servcie program, say, in arts and the professional in education. This may well beg the question of what to do about intramural programs, or recreational leadership, or health education, or intercollegiate athletics.

Some Dimensions of the Problem. In reviewing this issue I find it to be a very live one, partly because physical education has such varied dimensions:

1. Physical education has a service function which cuts across most undergraduate colleges: it hardly belongs to a single college. It is university-wide, in practice chiefly at the lower-division level.

2. Physical education has a professional function with programs at both undergraduate and graduate levels. Even these professional programs do not always fit within the traditional framework of professional education. A good illustration is recreational leadership. Or, if you prefer, I am sure that the preparation of college and university teachers should not be vested solely in a college of education.

3. Physical education has direct ties with intramural and intercollegiate athletic programs. A good case can be made for placing these outside a college of education.

4. In addition physical education is complicated by segregation policies, often separating men's and women's programs with respect to both service and professional courses. I am sure that this segregation has existed for a number of very definite and sometimes very good reasons. In some cases segregation has been essential to maintain a viable program for women and to prevent its dominance by either the men's physical education program or by the intercollegiate athletics program.

In our own case we maintain essentially four quasi departments which have been separated budgetarily within the School of Physical Education: Physical Education for Men (PEM), Physical Education for Women (PEW), Recreational Leadership, and Intramurals for Men. The program in school health education is coordinated by a member of the PEW department. In addition we operate a separate service program for our St. Paul campus. The chairmen of PEM and PEW are both associate directors of the School of Physical Education. The PEW department operates its own intramural program for women but has been attempting to work out a cooperative program with the men. Relationships between the intramural program and the College of Education are a bit fuzzy, in large measure because 85 percent of the funds needed for support of the intramural program comes from intercollegiate athletics. One other relationship needs to be identified—coaches generally carry rank and responsibility in the Department of Physical Education for Men.

What Best Pattern? In some ways, you might say, we ought to bury some of these relationships rather than to talk about them. This seems a poor way of doing business, however, for if I have done my homework aright, I learn that there is no single pattern of organization which is best for all institutions. Each university must study the characteristics of its own situation and develop a pattern which seems right for it.

On this topic, I was interested in examining a study made 2 years ago by Richard J. Donnelly about the structure of organization for physical education in 257 colleges and universities. This was an 82 percent return from major colleges and universities, predominantly those accredited by the National Council for the Accreditation of Teacher Education.

1. He found that only 13 of the 257 institutions had physical education organized as a separate college or school, sometimes combined with health or recreation or both. This was only 5 percent, or 1 institution in 20.

2. In 55 of the 257, or 21 percent, physical education was administered as a division.

3. In the remaining 189 institutions, or 74 percent, physical education was operating as a department.

4. In approximately two-thirds of the institutions men's and women's physical education was combined, but in one-third of the institutions they were separated.

5. In 88 percent of the 257 institutions was basic physical education an undergraduate requirement. In 84 percent such courses carried academic credit.

The same study brought out some relationships between the head, or chairman, or dean of physical education to the administrative structure of the university. The pattern is a bit confusing here and does differ for men and women. In both cases, except for the important fact that the head of the women's department is most often subordinate to the men's department head, the order is as follows: The chairman or other administrative head for physical education reports to:

1. A general administrative officer (president, vice president, academic dean, and the like).

2. The dean of education.

3. The dean of arts and sciences. Numbers drop off rapidly thereafter and make the situation less understandable. At any rate between one fourth and one third of the physical education departmental or divisional chairmen have a direct relationship to the college or school of education.

Intramural programs were almost always administered through the physical education structure, but intercollegiate athletics seldom followed this pattern. In almost four fifths of the cases intercollegiate athletics was administered separately by the president, the vice president, an academic dean, a committee, or some combination of these. In only one fifth of the cases was intercollegiate athletics tied to physical education or to the dean of education.

Confusing Terminology. The structure of higher education gets in our way when discussing these findings. We do not have very precise definitions for many of the terms which we use. Witness the following:

1. When is a college or university a college? a school? Is a college a broader or narrower term than a school?

2. What makes a department a department? What conditions should prevail with respect to staffing, budgeting, policy formation?

3. Is a division a broader or a narrower term?

These questions and variations in definitions from one institution to another become troublesome when we seek to interpret findings such as those reported in the Donnelly study. I am sure that some faculties in departments of physical education for men have much more autonomy with respect to staffing, scheduling, staff assignments, budgeting, program development, and fiscal control than schools or colleges of physical education in other institutions. These really are more important than the names which may be attached. If this is true, it behooves deans of education or deans of arts or general administrative officers to pay particular attention to the unique functions and problems reflected in higher education regardless of other identification or tables of organization or pretty organization charts.

Applications for Physical Education. Physical education, because of its varied functions and relationships, seems to represent a field which cannot easily fit into a single pattern. The pattern which seems best in one institution may not be appropriate for another. The following problems seem to emerge:

1. If physical education is under the arts college, teacher education may suffer and insufficient attention may be given to service programs, including intramural sports and intercollegiate athletics.

2. If physical education is under the college of education, teacher education may be emphasized at the expense of service courses or intramural activities.

3. If physical education is under or closely associated with intercollegiate athletics, this field may tend to dominate.

4. If physical education is established as a separate school or college and left to fend for itself it becomes highly vulnerable within the institutional framework. We need some studies which demonstrate its ability to compete by itself as an independent unit in matters of salary, rank distribution, autonomy in course development, relation to graduate school, and the like. We also would need evidence of gain in productiv-

ity, research, and productive scholarship, and professional leadership.

You would expect me, as Dean of the College of Education, the college entrusted with preparation of teachers for the public schools at the University of Minnesota, to need some convincing arguments to show that separation of physical education from the college of education would lead to better selection and admissions practices, better programs of study, more effective teachers of physical education at all levels, and better scholars within physical education. Such evidence would have to be provided before I would willingly give up the control we now exercise over preparation and certification of teachers of physical education.

A Movement toward the Academic. At the same time I would be quite willing to have physical education move more in the direction of an academic discipline if this seems appropriate. Close ties can be developed with cultural anthropology, anatomy, physics, physiology, history, sociology, psychology, and philosophy, to name a few fields. The content borrowed or adapted from these fields can be theoretical and scholarly as contrasted with technical and professional. The same is true in professional education.

A movement in this direction might be a proper one for physical education, but I have little respect for the idea that courses must be made more scientific, more rigorous, or more theoretical unless this is an appropriate direction in which to go for a field of study at a given point in its development.

A movement toward the academic seemed implied in this year's Louis Keller Lecture on Physical Education. Seward C. Staley, in speaking on "New Dimensions for Physical Education," shocked me a bit when he declared that physical education really is a misnomer, that we are dealing chiefly with sports, exercise, and a little of the dance. He advocated abandonment of activity courses, elimination of skill development in grading courses, substitution of intellectual or so-called substantive learnings, and getting rid of credits for activity courses.

I know Dr. Staley has some points on his side—that we may have over-emphasized the how-to-do-it or procedural courses and ignored the scientific aspects of exercise, but I am not yet ready to throw out the baby with the bath.

We may well need experts in the history of sports comparable to the history of art, as recommended by Dr. Staley, but before we adopt this approach I would like to make sure that the historical approach is better than the anthropological or the sociological or the economic. We might well eliminate some special activity courses, but I would hesitate about throwing out those courses most likely to have long-term applications in an age of increasing leisure. We may well have to work out credit allocations for activity courses, even credit by examination.

Future Developments. I am not sure what is likely to take place in the marriage between the School of Physical Education and the College of Education at the University of Minnesota. This I do know—the relationships between the units are carried on by professional faculty members who respect each other, raise appropriate questions, and are willing to probe for answers. We do not have ready-made answers to questions of organization. Neither do we know how best we can provide the service courses which are needed by students within a university—or what adaptations can or should be made in bridging the gap between intramural activities and more formalized programs.

Research Development

We know that we share a desire to get more research done on all problems of education. In preparing for this discussion I was interested in examining the nature and amount of research produced in physical education—partially, I suppose, because shortages in this area have so often been charged to workers in this field. In my judgment the situation is not as bleak as has been charged. I suggest that you review again the article on "Physical Education" in the third edition of the *Encyclopedia of Educational Research* with its 290-item bibliography. True, some of these so-called research reports have not graduated very far from the nose-counting approach to research, but some suggest evidence of reasonable quality. Instead of bemoaning the low estate of research and scholarly activity in physical education, we need to get on with the task.

A colleague of mine made a rough classification of studies noted in the *Journal of Health, Physical Education, Recreation,* covering most of the period 1960 to date and including studies summarized in the *Research Quarterly* of the American Association for Health, Physical Education, and Recreation. He categorized 181 reported studies with these results:

Category of Research	*Percent Reported*
Kinesiology or physiology of exercise	31
Psychology and motor performance	27
Health education (including dietary and medical problems)	12
Physical fitness measurement	11
Curriculum, objectives and methods	8
History and philosophy of physical education	6
Teacher education for physical education	5
Total	100

These seem to be perfectly respectable categories for research in physical education, but this leads to a related question. In a major university how best can research be promoted in physical education? Should all professors engage or be expected to engage in research? Should the top ranks be reserved only for the most productive researchers?

Here too there seems to be no well defined set of answers. I suggest, however, that colleges and universities need staff members with many different qualities and capacities. Research is certainly one of these and should be stressed. But so is fine teaching and advising, or relationships with students. The doors to promotion and salary adjustments ought also to be open for the exceptional teacher. Always within major institutions, especially those with the land grant tradition, comes also the function of service. Rewards are appropriate here too. If a university is unwilling to reward effective service in teaching, the lower division or even the undergraduate programs should likely be removed from these institutions. Such removal would have a devastating effect upon intercollegiate athletics and rewards to coaches and assistant coaches. Some major universities seem convinced of the wisdom in this move, although I have some difficulty in accepting it for this institution. We need to be a bit more flexible in our approach to personnel practices. Research may not be as dominant a function in physical education as it is in other fields.

Conclusions

Thus, I have shared with you some of the ways in which a new education dean in a major state and land grant university looks at physical education, a unit attached to his college, both organizationally and administratively. I am sure that troublesome problems of relationship and support will continue to haunt us. We take some comfort in the fact that in this field we do not have a single path which has been proven best. The dilemmas which surround physical education as a field do not fit into a neat package—service courses, professional programs—graduate and undergraduate, intramural activities, research, appropriate distinguishing features for men's and women's programs, relationships with interscholastic athletics, space, facilities, finance, and personnel problems. You have undoubtedly noted some biases which more experience and greater awareness of problems will remedy. Your colleagues on the physical education staffs will help to educate me along these lines. The "honeymoon" may be over but the future looks exciting!

Innovations in Teacher Education

John E. Nixon
Stanford University

The purposes of the Stanford program are to recruit and prepare outstanding candidates from science and humanities departments in colleges throughout the country for high school teaching (Stanford no longer prepares elementary school teachers), to induct these prospective teachers gradually into the teaching profession, to ensure that they become highly qualified beginning teachers, and to maintain systematic contact with these teachers over the years in order to assist in their experience and preparation for leadership roles in education.

The program also carries out four important functions in the university. (1) The organization and design of the program permit continual experimentation and evaluation of new concepts and procedures. (2) The program provides a clinical training experience for master high school teachers who desire to become teacher-educators through the doctoral program. (3) The program promotes closer university-public school relationships. (4) The program enlarges cooperative intra-university relationships through joint academic appointments in the School of Education and in the subject-field department, with overall policy control being exercised through a university committee on teacher education.

Interns are recruited and selected from students with excellent academic undergraduate records in the fields of art, English, mathematics, modern languages, music, physical education for men (Stanford no longer has degree or credential programs for women physical education majors), sciences (physical and biological), social studies, and speech and drama. A rigorous screening procedure is employed involving personal interviews, a battery of tests, and a committee examination of previous grades, experiences, recommendations, and general health.

This first-year graduate program begins in the summer quarter with an entering class of interns and normally concludes in the following June. In this 12-month period the following six program strands are emphasized and are closely interrelated:

1. Continuous practice in teaching beginning with micro-teaching in the summer quarter, followed by internship teaching in a nearby high school, which includes regular teacher assignment to two classes during a half-day stay in the school daily for the entire academic year. Interns are employed by the school district and receive one third of the salary of a regular beginning teacher, which averages between $1,800 and $2,300.

2. Continuous study in the scientific and behavioral foundations of education through attendance at classes back at the Stanford campus in the afternoons and evenings.

3. Continuous study of the curriculum and instructional procedures of the teaching major field. In the Stanford program interns are prepared to teach only in their major field, although all candidates take the required courses to qualify for a California state credential, which includes both a major and a minor field.

4. Continuous study of secondary education, including curriculum, guidance, school organization, administration, and health education.

5. Continuous graduate study in the relevant academic department in late afternoon and evening courses.

6. Continuous evaluation of the intern's classroom performance by a master resident teacher on the faculty of the high school and by a Stanford tutor-supervisor who works closely with the intern for the entire 12 months.

One of the most significant innovations in the program is the systematic interrelationship and reinforcement of the above program strands as they pertain to interns possessing a high level of academic competence, a sound preparation in general education, and a strong undergraduate major in a high school teaching field. Clinical exercises simultaneously satisfy many requirements in various professional education classes, such as educational psychology and the social foundations of education. Tutor-supervisors work closely with senior professors in each subject field to improve the intern's knowledge and competence in his major teaching area.

The Stanford program includes several innovations which seem to hold much promise for the improvement of teacher education.

The first innovation is called micro-teaching. Micro-teaching is a scaled-down sample of teaching. During the first summer of the intern program, high school students are employed by the university for $1.50 per hour. They act as pupils in small classes for interns to teach. An intern begins by teaching one phase of a lesson to one student, for 5 to 8 minutes. He then receives assistance from the tutor-supervisor and very shortly thereafter again teaches this same phase to another small group of students. The process is repeated and expanded throughout the 8-week quarter, so that eventually the intern is instructing five students for a period of up to 20 minutes, attempting to improve his teaching in nine specific technical skills. To date, research indicates that this type of micro-teaching is effective in helping interns to improve in ***set induction*** (getting students ready to learn), *multiple frames of reference* (getting students to examine a body of material from more than one point of view), *closure* (bringing the class to a point of conclusion which is perceived as such by the students), and *observation skills*. Micro-teaching also involves practice in the skills of using questions effectively, controlling participation, providing feedback, employing rewards and punishment (reinforcement), and setting a model for appropriate behavior. Research is currently underway on the effectiveness of micro-teaching in developing these latter skills. In general it has been found that a high correlation exists between micro-teaching performance and performance in a regular high-school-class teaching assignment.

The second innovation is associated with micro-teaching. It is the use of a portable audio-visual TV camera having immediate playback magnetic tape. The tape costs $1 per foot, and the camera costs approximately $14,000.

Each micro-teaching session is recorded on television. The intern and his tutor-supervisor play back the TV tape immediately and review the lesson together. Then the intern repeats the lesson with a different pupil, and the process is repeated as often as required. A new lesson can be repeated within 10 or 15 minutes of the preceding lesson. Significant improvement can be noted after a few practice lessons. All tapes are saved for the year so that they can be played back any time. The progress of the intern can be reviewed readily by looking at a series of lessons recorded on the same tape over any span of training time.

During the academic year, while the intern is teaching in the high school, the television camera is taken to his school and an entire class period is taped. The camera is portable and can be set up in a class during the normal passing time between periods. We have used the camera in a gymnasium, in a gymnastics room, at an outdoor swimming pool, on a softball field, and on a golf driving range.

The intern uses a cordless microphone which has great sensitivity so that his voice is recorded continuously wherever he goes. Frequently the voices of the students are distinguishable too. A 200mm lens follows the intern wherever he goes. The lens can take close-up views or can "zoom" quickly for distant and wide-angle scenes. Within the next day or two the intern reviews the tape with his tutor-supervisor back at the university laboratory. More than 1,000 classrooms have been recorded in more than 50 cooperating high schools within a 100-mile radius of the university.

Research evidence to date concerning micro-teaching indicates that: (1) candidates trained through micro-teaching techniques over an 8-week period, spending less than 10 hours per week, performed better than a similar group of candidates receiving separate instruction and theory with an associated teacher-aide experience which involved between 20 and 25 hours per week; (2) performance in the micro-teaching situations accurately predicted subsequent classroom performance in the high school; (3) interns gave a high rating to the value of micro-teaching experiences; (4) high school pupils in the micro-teaching classes rated the teaching performance of the interns with a higher degree of stability than did any other category of raters, including university faculty supervisors; (5) video recordings can reliably be substituted for live observations in the supervision of teachers—thus, senior professors may now become more involved in direct supervision of interns than they were in the past because of a smaller time invovement; (6) the most effective type of supervision by tutors and senior faculty members appears to be the "self-discovery," nondirective type rather than supervisor-imposed, directive supervision.

The third innovation we are using in some subjects is time-lapse photography with 35mm slides. We have not yet adapted this technique to physical education activity classes due to technical difficulties, but we hope we can work it out soon. Hidden, silent cameras are placed in strategic vantage points in a classroom, and every minute and a half (or any other desired time interval) for the duration of the class period a picture is taken automatically which includes everyone in the room. By studying the sequence of these pictures, magnified by a projector on a screen, and by observing the activities, positions, and expressions of the students, clues can be obtained about teaching effectiveness. This technique seems particularly useful in helping teachers to improve their abilities to motivate pupils and to pace the lesson.

Another important innovation is the porvision of a variety of supervision services to assist the intern continuously throughout his training program. The *tutor-supervisor* is a new role in teacher education. This person is a master high school teacher who has a distinguished record of teaching and who possesses a strong academic record in his subject field. He is in the doctoral program preparing for a teacher education position. He is supported by a generous teaching assistantship stipend. Each tutor-supervisor is assigned five to eight interns in his major field. He tutors each intern in professional education courses and supervises the teaching performance intensively and continuously in the micro-teaching laboratory in the first summer quarter, as well as in the high school classroom throughout the academic year. A high degree of individualization of training is thus achieved. The tutor himself works under the direct supervision of the senior professor in the major field. The senior professor teaches the curriculum and instruction course in his field, which is a part of the intern's program each quarter, and the work of this course is closely integrated with the teaching experience of the intern and the supervision of the tutor and of the resident supervisor. In the supervision of the micro-teaching experience by the tutor, varying types and conditions of "feedback" are being provided in an attempt to determine the most effective type of supervision.

Another phase of the total supervision program involves the resident supervisors in the high schools where the interns are assigned. These highly experienced, successful master teachers receive a reduced teaching load so that adequate time is provided them to supervise the interns continuously and to participate in training seminars at the university with the Stanford faculty. Resident supervisors receive $500 per year for supervising three interns and are designated as university staff members, an arrangement similar to clinical appointments on medical school faculties by doctors in the community.

The subject of teacher eduaction should not be concluded without reference to the need for the valid appraisal of teaching competence and also the appraisal of learning results. Over the years efforts to develop valid instruments to appraise teacher competence have been largely unsuccessful. The general approach has been to concentrate on teacher characteristics. As a result of intensive work by the secondary education committee at Stanford during the past few years, the *Stanford Teacher Competence Appraisal Guide* has been developed. The guide focuses upon teacher behavior in the general categories of aims, planning, performance, and evaluation. Four additional items concern professional and community responsibility of teachers. The guide defines the major teacher skills which the program aims to develop. The total program of teacher education focuses on growth toward these standards as the common target. The guide defines 13 general practitioner skills around which subject-matter specialists in each field may build specific standards of expert practices appropriate to the subject, to grade levels, and to groupings of students. In physical education we are writing specific descriptions of teacher behavior which are representative of successful demonstration of the general skills contained in the guide, taking into account the specialized physical education environment and class procedures, which differ from those in the typical indoor classroom in other subjects.

Based on the appraisal guide, frequent assessment of teacher performance is made by tutor supervisors, resident supervisors, senior professors, students in intern classes, other interns, and by each intern himself. Individual and group profiles of performance are charted, and progress can be visualized.

Automated processing data procedures are employed to make detailed analyses of intern performance which would not be possible by hand processing. All data reported on the appraisal guide are machine coded. Interns are provided with statistical summaries of student ratings on the guide (means for individual items, standard deviations for each item, and intercorrelations between items). Basic census data are immediately available for analysis and comparison. Longitudinal studies are easily developed and carried on throughout the year. Much detailed information of intern progress can be provided to supervisors and senior faculty at periodic intervals, which in turn makes the supervisory services more efficient and effective.

Finally, the interns themselves are continually working with Stanford faculty in educational innovations such as curriculum revision, team teaching, flexible scheduling, programed learning, school planning, and school organization. Interns are subjects for research in teacher education. They are innovators in their own classrooms. They examine and criticize relevant inquiries and studies.

The final goal of the teacher education program is for the intern to become committed to the importance of the teacher as a critical inquirer into his own behavior and the behavior of his pupils and peers.

An Athletic Director Looks At Physical Education

Marsh Ryman
University of Minnesota

Status and Reorganization of Minnesota's Department of Physical Education

1. In the fall of 1963 a School of Physical Education was organized to include physical education for men, physical education for women, recreation leadership, and intramural sports. The School and the Department of Intercollegiate Athletics share faculty and facilities.

2. The reasons for reorganization were:
   a. Better organization and programing.
   b. Sounder financial operation.
   c. More definite lines of responsibility and authority.
   d. Provision of a special trained and qualified director for each department.

3. Financing of the various phases (Minnesota philosophy):
   a. Intercollegiate athletics—gate receipts and contributions.
   b. Physical education—state appropriations.
   c. Intramural sports—gate receipts with state support gradually supplanting intercollegiate athletics as the means of financial support.

4. What Minnesota faces in the future in student enrollment:

	1964	*1975*
a. Main campus	24,000	20,000-22,000
b. West Bank	7,000	18,000-20,000
c. St. Paul campus	3,300	10,000-12,000
Total	34,300	48,000-54,000

5. Athletics can reflect whatever the institution and staff want it to reflect. The image can be good or bad. If the "climate" is good the program will be healthy.

Relationship Between Intercollegiate Athletics and Physical Education

1. Physical education must be sympathetic to intercollegiate athletics, and likewise intercollegiate athletics must have an understanding and awareness of the objectives of physical education. Certain things assist in bringing this about:

a. All coaches should teach in the physical education program—but emphasis should chiefly be in the field of their specialty.

b. Ideally all coaches should have their major preparation in physical education and preferably advanced degrees. However, if I had to choose between dedication and advanced degrees, I would be inclined to favor dedication.

c. Excepting possibly head coaches of the major spectator sports, coaches should be primarily physical education instructors. This will add prestige to the physical education program.

d. Physical education and athletics should be compatible but yet distinctive. Likewise neither should dominate the other.

e. Both coaches and physical education instructors must be good teachers. Both are constantly doing research for new techniques, methods and more effective programing.

f. There should be an application of tenure rules for full-time head coaches. This is important and can be effected by academic appointment in the department of physical education.

Financing and Facilities for Intercollegiate Athletics and Physical Education

1. Rapid increase in institutional enrollments is placing greater demands for recreational and intramural facilities. Minnesota ranks ninth in the Big Ten in available outdoor-indoor space measured in square feet per student.

2. The cost of maintenance and new facilities is rising faster than most of us can keep pace with. Central administration has been slow to bring physical education and athletic planning into the total University planning.

3. Physical education facilities and maintenance should be supplied by the institution just as for any other department or college of a university.

4. Students and staff must assume a greater proportion of the costs than they have in the past. The public has built through gate receipts what we have today. Increased fees are inevitable.

5. Budgets for physical education and intercollegiate athletics: Intercollegiate athletics contributes nearly $150,000 a year, the state only $356,000. Facility maintenance is carried by intercollegiate athletics.

6. Finance and Facilities Committee at the University of Minnesota: Ten subcommittees are now functioning to complete a full report with recommendations to the central administration.

Problems—Concerns and Concepts We Face Today in Physical Education and Intercollegiate Athletics

1. Student-athletes have a privilege, and with this privilege go certain responsibilities and obligations, such as scholastic progress, graduation, leadership, and character.

2. Athletics can be one of the finest disciplines in the school system, but those teaching and working in this area must demand and enforce discipline. Students want discipline, and I must think that part of their rebellion is a revolt against the lack of it.

3. There is an overemphasis on practice sessions in sports except for football and basketball, which are rigidly regulated. Swimming, for example, conducts year-round practice. Does the principle of individual difference operate here? Can all athletes take the same workout?

4. How far can we go in raising the fatigue and endurance plateaus? Don't we need more research about the possible adverse affects? What are the end results going to be?

5. Rules and regulations today governing administration and conduct of intercollegiate athletics make it virtually impossible for the participants to know the rules.

6. Conference rules particularly in football and basketball are limiting squad participation in the main to just the athletically gifted.

7. In the Big Ten the "listing" of football and basketball players discourages and actually prohibits other interested students from playing—it is fundamentally educationally unsound. "Listing" means that at the beginning of the season all football and basketball players must be registered in the Big Ten office. No other student may participate in the sport in intercollegiate contests.

8. Student athletes generally rate high academically because of motivation, eligibility standards, counseling, and personal satisfaction achieved. In the Big Ten only 10 percent of freshman athletes drop out after the first year whereas 25 percent of the general student body drop out.

9. Athletes are in some ways actually discriminated against in comparison to other students. For instance, they can be admissable but still not have the scholastic predictability to participate. Do we require the same thresholds in other courses? One can try economics or mathematics. We need to develop a better image of the student athlete. They spend long hours perfecting their skills and special aptitudes, yet carry normal scholastic loads in addition. Maybe they deserve at times some special help and consideration.

10. The duties of athletic director certainly cannot be as limited as I was recently informed—that the two duties are 1) public relations and 2) raising money. These are in fact only two of many.

Summary

1. Intercollegiate athletics and physical education need each other and must move forward together.

2. Physical education can contribute the "academic status" athletics needs in the university community.

3. Athletics can provide the community popularity, prestige, glamor, and publicity physical education needs. For example, over 75 percent of the people of the state of Minnesota are more concerned with the image of football than any other single phase of the University. President Hatcher remarked at the Rose Bowl Big Ten gathering that Michigan's coming to the Rose Bowl did more for the school's image than anything the regents or the president had done all year.

4. At the University of Minnesota we are confident the two programs of physical education and athletics will develop together simultaneously and will compliment each other.

RESEARCH

Test-Retest Reliability Coefficients of Selected Measures[1]

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Introduction

In humans, as in all biological matter, measurements of a given function have a certain error of variation. The magnitude of these errors, in which a repeat of the same test yields substantially different results without any tangible change on the part of the subject, presents a formidable obstacle in the accurate assessment of his prevailing level of function.

It is possible for a test to be highly reliable yet not valid; e.g., measurement of body stature is highly reliable but is not a valid predictor of endurance-running ability. The reverse relationship, however, is not true; that is, high predictive validity is necessarily largely dependent upon the reliability of the independent variables. If one repeatedly measures a variable that yields results which vary greatly from the actual (true) value, the likelihood of accurately predicting an individual's score on another test is remote in comparison to a variable that yields approximately the same result with each succeeding measurement. A reliable measure then, is one that is stable, or fixed, that is, the same "yardstick" applied to the same individual yields the same value from moment to moment, provided the thing measured has not changed in the meantime. Further, it should be realized that the determination of reliability is of a particular instrument applied to a given population under certain conditions and is not necessarily indicative of the reliability of the same test administered under differing conditions.

A test-retest reliability coefficient (r_{11}) represents the proportion of variance that is true variance, and may be expressed as follows:

$$r_{11} = \frac{\sigma tr^2}{\sigma tot^2}$$

Where r_{11} = the reliability coefficient
σtr^2 = true variance
and σtot^2 = total variance.

Similarly, the reliability coefficient equals one minus the ratio of error variance to total variance ($r_{11} = 1 - \frac{\sigma e^2}{\sigma tot^2}$).

Consequently the total variance is equal to the true variance plus the error variance ($\sigma tot^2 = \sigma tr^2 + \sigma e^2$). By examination of the above formulae, it is clearly evident that the less the variation due to error, the closer the true variance will approximate the total variance and, therefore, the higher the reliability coefficient will be. The total variance is equal to the mean of the sum of squares of deviations from the mean of the measurements, while the error variance is equal to the mean of the sum of squares of deviation from their mean. The test-retest reliability coefficient is, therefore, an efficient and accurate means of assessing the amount of error inherent in repeat measurement of the same test done on a sufficiently large and diverse group of subjects.

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[1] This report represents one segment of a primary research investigation to be published. Bibliography and tables may be obtained from the author upon request.

The random error present in the repeat of a test on a group of subjects may be subdivided into that due to variance in the testing method used and that due to intra-individual variance. C. Taylor (1944) showed, by means of split sample retest and test-retest of several important metabolic variables, that the percent of total variance accounted for by the latter factor was far greater than that due to method variation.

Method

The primary purpose of the original investigation was to ascertain the relative relationship of selected structural anthropometric, motor-fitness, circulatory-respiratory and psychological measures to all-out treadmill-run performance (7 mph, 8.6 percent grade). To accomplish this purpose, a battery of 19 structural anthropometric measures, 6 circulatory-respiratory tests, 9 motor-fitness tests, 3 psychological tests, and all-out treadmill-run test (before, during, and after which certain additional circulatory-respiratory measures were taken) were administered to 71 young male college students.

The testing was divided into three sessions, varying from 1 to 1¼ hours in duration. The first session was conducted in an environmental chamber controlled for ambient temperature and relative humidity and with the subject in a post-absorptive state. Basal-heart-rate, pulmonary-ventilation, oxygen-consumption, vital-capacity, and sitting-heartograph measures were taken. Following this, each subject performed the 5-minute step test, with pulse-rate and blood-pressure determinations being taken before and after the test and during recovery.

The second session was conducted approximately 36 hours after completion of the first and included motor-fitness and psychological tests. In addition, 19 structural-anthropometric measures were taken either as "pure" measures or for computation of various indices. The third session, performed 1 week after the first, consisted of a run to exhaustion on a treadmill set at 7 mph, 8.6 percent grade.

Thirty subjects were selected on the basis of an opening in the examiner's schedule for a repeat of the first two testing sessions. It was found that the sub-group of 30 had closely comparable mean values to the total group of 71 on the first round of tests. Due to what was felt to be an excessive time requirement on the part of the subjects and the great amount of laboratory facilities and personnel necessary for conducting the all-out treadmill-run test, no attempt at a retest for this session was made.

Results and Discussion

The test-retest reliability coefficients (r_{11}) for the basal-pulmonary-ventilation, metabolic-rate, and blood-pressure determinations were found to be below the arbitrarily acceptable 0.70 level. In addition, the basal (0.736) and resting heart-rate (0.635) coefficients were notably lower than the 0.90 value obtained by Cureton (1947). Cook and Wherry (1950), however, found that resting heart rates taken under similar conditions on the same day were quite reliable but when taken on different days tended to result in unsatisfactory reliability (0.35).

They concluded that test-retest reliability determined during a single appointment should not be expected to represent r_{11} determined from measures taken several days apart. In view of the fact that the mean time differential between the test-retest sessions was 17.9 days, it is not entirely surprising that the reliability coefficients for most of the basal and resting cardio-vascular and respiratory variables were low. In view of the above, however, it is somewhat surprising to find relatively high test-retest reliability coefficients for the three brachial pulse-wave determinations. It would seem that these measures are a good deal more stable than is the basal or resting pulse-rate measure. The r_{II} found for area under the brachial pulse wave (0.771), systolic amplitude (0.844), and diastolic amplitude (0.704) compare favorably with those reported by Cureton in 1947 (0.86, 0.91, and 0.77 respectively).

The vital-capacity residual r_{II} (0.977) was higher than that reported by Moore (0.866) in a study of atypical college students done in 1954. No test-retest reliability coefficients for the maximum-breathing-capacity test could be located in the literature. It would seem, however, that in view of the r_{II} of 0.895 obtained in this study, the test quite likely possesses adequate reliability for further exploration as a physical fitness test.

The r_{II} for the 5-minute step-test terminal heart rate (0.908) and the sum of three recovery pulse counts (0.943) were considerably higher than those for the basal and resting heart-rate determinations. This supports Heath's (1945) contention that measurements taken during work, and thus nearer the physiological limit, tend to be more stable.

As should be expected, the reliability coefficients for the structural-anthropometric tests were quite high, ranging from a low of 0.900 for the weight-residual determination to a high of 0.995 for height. The r_{II} determined for body weight (0.993), the skeletal index (0.972), the muscle-girth index (0.987), the adipose index (0.971), the sum of six skin-fold fat measurements (0.966), and the weight residual (0.900) all exceeded those reported by Moore in 1954 (0.975, 0.893, 0.977, 0.925, 0.913, and 0.657 respectively).

Clarke and Clarke (1963) have reported objectively coefficients of 0.90 and higher for the cable-tension tests that they devised. One should expect test-retest reliability coefficients to exceed objectivity coefficients. However, in this study, the knee-flexion (0.869) and knee-extension (0.907) r_{II} values come close to this standard, but the hip-flexion and hip-extension tests yielded reliability coefficients of only 0.772 and 0.733 respectively.

The Illinois agility run yielded a satisfactory r_{II} of 0.853. The vertical-jump reliability coefficient was 0.925, somewhat higher than that obtained by McCloy in 1932 (0.85). The test-retest reliability coefficient of 0.626 obtained in this study for the sitting-tucks test was disappointingly low and compares unfavorably with that reported by Cureton in 1945 (0.92). On the other hand, the r_{II} for full-squat jumps (0.814) found in this study bares close similarity to that found previously by Cureton in 1945 (0.78).

The two psychological tests showed satisfactory reliability coefficients of 0.846 for the bar hang and 0.789 for breath-holding after 1 minute of bench stepping. The former value is considerably higher than that obtained by Cureton in 1945 (0.59), while the latter equals the test-retest reliability (0.78) found by Karpovich (1947) for a similar breath-holding test.

A search of the literature revealed a somewhat startling lack of test-retest reliability coefficients secured on young college males for measurements commonly taken in conjunction with all-out treadmill-run performance. The notable exception is the classic study of C. Taylor (1944), who found that the reliability of physiological measures, such as heart rate, pulmonary ventilation, oxygen intake and oxygen debt taken during and immediately after an all-out run were higher than the reliability coefficients obtained for the same measurements taken in a similar test-retest sequence during submaximal exercise. This confirms the thesis of Barcroft (1934), which was reiterated by Heath (1945), that functional measures taken nearer the physiological limit are more stable than measures taken on the same variable while the subject is at rest.

Summary and Conclusions

Since no repeat determinations on a single subject taking a test where made for any of the tests, it is not possible to determine the extent to which method error contributed to the total source of error. However, the test-retest reliability coefficients were generally quite high for the structural-anthropometric tests and less so for the functional tests, with no appreciable difference in method error being evident. Consequently, it may be assumed that, barring any actual changes in the subjects over a period averaging 17.9 days, intra-individual variance accounted for the major share of random-error variance.

It might be well at this time to list numerous precautions that should be taken routinely in an attempt to reduce the relatively large intra-individual variance of test-retest determination. Among the most important for human-performance work, although they are not always practical, are:

1. Allow sufficient practice on the test to obviate error due to individual differences in learning rate.
2. Give test-retest sessions close together, so that no significant change in the level of function may occur.
3. When possible, standardize environmental conditions.
4. Give test-retest sessions at a similar time of day (and week, perhaps), when subject will most likely exhibit a similar tendency.
5. Offer incentive (money, shouting, etc.) to motivate the subject to perform at his best.
6. When giving a battery of performance tests, insure adequate time for recovery, so that fatigue does not measureably distort the results.

Even though method error is quite likely of minor importance compared to intra-individual error, it is well to minimize it by calibrating all instruments and standardizing one's instructions and technique in the various tests involved.

The Effects of Specific Social-Incentive Conditions on Performance on Physical Fitness Tests[1]

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Scores on physical fitness tests are often used to evaluate physical fitness of individuals and to compare the fitness levels of various groups. The reliability of these measures is dependent upon securing the all-out efforts of the individuals tested; therefore, it would appear desirable to investigate the effects of social-incentive conditions on the scores obtained on physical fitness tests.

Purpose

The purpose of this study was to determine the effects of specific social-incentive conditions on the performance on physical fiitness tests.

The test battery used was the battery recommended by the American Association for Health, Physical Education, and Recreation.

The following social-incentive conditions were employed.

1. A situation in which the subject was a member of a group that competed with another group.
2. A situation in which the subject competed with a classmate of near-equal ability.
3. A situation in which the subject competed with a classmate of markedly different ability.
4. A situation in which the subject chose the level of performance he wished to attain.

Procedure for Obtaining Data

Design of Experiment. The data for this study were collected during three administrations of specific physical fitness tests. On the basis of scores on the initial administration of the tests, 50 subjects were selected from each of five physical education classes for boys and a like number were selected from each of five classes for girls. The selection was so made that the groups for each sex were as nearly equated as possible based on composite sc[illegible] Percentile scores were compiled for each subject on each of the seven physical fitness tests, and the mean of these percentile scores was used as a composite score.

Data were collected in the same manner and the same analyses were made for the girls as for the boys. At no time were the data from one sex combined with that from the other. The study was, in effect, two identical experiments conducted simultaneously, one using girls as subjects and the other using boys.

During the fourth and fifth weeks following the initial test administration the tests were administered a second and a third time to the subjects. The five groups of subjects for each sex (one group from each of five classes) were randomly assigned to one of the four social-incentive conditions or to a control group. The tests were administered according to directions given in the *AAHPER Youth Fitness Test Manual,* with additional directions given those groups which were subjected to a specific social-incentive condition.

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[1] Bibliography may be obtained from the author upon request.

The scores from the second and the third administrations of the tests were analyzed by use of a Type III Mixed Design as described by Lindquist.

Subjects. The subjects for this study were 180 boys and 165 girls who were enrolled in the tenth and eleventh grades in Central High School, Little Rock, Arkansas, during the 1962-63 school year.

Administration of Tests. The tests were administered three times to all subjects who participated in the study. The first administration of the tests was made during the first week of regular classes in the fall of the school year 1962-63. During the next 2 weeks pupils who missed all or part of the tests were tested; thus, test scores were obtained for every pupil in grades 10 and 11. During the first administration of the tests no announcement was made concerning retesting.

Two weeks later the tests were administered a second time to those pupils selected as subjects for the study. At no time during or after the second administration were the subjects given any indication that the tests would be administered a third time. One week after the start of the second administration of the tests, the tests were administered a third time to each group.

The schedule for testing was identical for each of the three administrations of the tests.

Groups. The groups subjected to a specific social-incentive condition and the control groups are described below. The groups for girls were designated A through E and for the boys F through J.

Condition I: Level of Aspiration (Groups A and G). Each subject was given his score or scores on the previous test and was asked to set a goal that he would attempt to achieve. He was then tested and throughout the test was urged to reach his goal.

Condition II: Team Competition (Groups C and F). Each group was divided into two teams that were equated on the basis of composite scores obtained from the first administration of the tests. The subjects were arranged in rank order according to the composite scores and assigned to team A or team B. This assignment was made by beginning with the highest score and assigning each subject in order of descending rank by the A-B-B-A method until all had been assigned. These groups then competed for the best team score. During the testing members of team A and team B performed alternately. Team score sheets were posted in each testing area and only the cumulative team score was recorded. The team scores for the second administration of the tests were posted in the testing area prior to the third test administration.

Condition III: Competition with Person of Near-Equal Ability (Groups D and H). Each group was arranged by rank according to composite scores on the first administration of the tests. Each subject was then paired with someone of equal or near-equal ability as measured by these scores. The subjects were instructed to compete with their partners for best score on each test. The tests were then administered simultaneously to each pair of subjects. The same pairings were used for both the second and third test administrations.

Condition IV: Competition with Person of Markedly Different Ability (Groups E and I). The composite score for each subject on the first administration of the tests was used as a basis for the pairings in these groups. The subjects were placed in order by rank in their respective groups on the basis of composite scores. Each group was then divided at the median, and the subject with the highest score in the upper half of the group was paired with the subject with the highest score in the lower half of the group. This method of pairing was continued until the subject with the lowest score in the upper half was paired with the subject with the lowest score in the lower half. The subjects were instructed to compete with their partners for the best score on each test. The tests were then administered simultaneously to each pair of subjects. The same pairings were used for both the second and third administrations of the tests.

Controls: (Groups B and J). These groups were given identical directions each time the tests were administered. The subjects were told that the purpose of the tests was to measure a phase of physical fitness, and, immediately after each test, each subject was given without comment his score on the test. No attempt was made to motivate the subjects in these groups.

Analysis of Data

The data collected in this study were analyzed by use of a Type III Mixed Design as described by Lindquist. The analysis used was one that could be used for matched groups.

The data were organized in such a manner that they could be placed in a three-way design. The social-incentive conditions made up one dimension of the design, administrations two and three of the tests made up the second dimension, and the division of scores in each group into levels made up the third dimension. This division of scores was made according to composite scores for the individuals within each group. Those subjects with composite scores of 65 or above on the first test administration were placed in level I, those with composite scores of 45 to 64.99 in level II, and those with composite scores of 44.99 and below in level III.

For each physical fitness test, two analyses were made: (1) analysis of the data obtained from the boys, and (2) analysis of the data obtained from the girls. Analyses were also made of the composite scores for the boys and for the girls.

In each analysis the F for the differences between means for each group subjected to a social-incentive condition and the control group, the F for differences between means for each group for the second administration and for the third administration of the tests, the F for differences between means at each level, and the F for all possible interactions were computed.

For all analyses, a level of significance of .01 was selected for the rejection of the null hypothesis.

In instances in which significant F's were found, the critical difference using the t for a probability of .01, was computed. If the differences between any two means was found to be equal to or greater than this computed critical difference, the difference is reported as being statistically significant.

Findings for Boys. The results of the analyses showed the following pertinent findings relative to the data for the boys.

1. For the groups combined, the means of the scores for administration two are, for the 600-yard run-walk, standing broad jump, and 50-yard dash, better ($P = .01$) than the means for administration three. For the softball throw for distance, the mean for administration three is greater ($P = .01$) than the mean for administration two.
2. For the groups combined, the mean of the composite scores for administration two is greater ($P = .01$) than the mean for administration three.
3. The mean for the level-of-aspiration group is, for two tests (pull-ups and 600-yard run-walk), better ($P = .01$) than the mean for one or more of the other groups.
4. The mean for the competition-with-person-of-markedly-different-ability group is, for two tests (pull-ups and 600-yard run-walk), better ($P = .01$) than the mean for one or more of the other groups.
5. The means of the composite scores for the level-of-aspiration and competition-with-person-of-markedly-different-ability groups are greater ($P = .01$) than the means for two of the other groups.

Findings for Girls. The results of the analyses showed the following pertinent findings relative to the data for the girls.

1. The mean for the level-of-aspiration groups is, for three tests (600-yard run-walk, 50-yard dash, and shuttle run), better ($P = .01$) than the mean for one or more of the other groups.

2. The mean of the composite scores for the level-of-aspiration group is greater ($P = .01$) than the means for two of the other groups.

Discussion of Findings. Situations which develop during the course of this study affected performance to some degree. No attempt was made to evaluate specific effects of these situations, but discussion is presented in an effort to explain some of the findings.

The schedule for test administrations appeared to influence to some degree the performances of subjects on the tests. The interval between the start of administration one and the start of administration two was 4 weeks. This interval was necessary in order to complete the testing of all potential subjects, to compile percentile scores, and to select the groups that would serve as subjects for the study. The interval between the start of adminsitration two and the start of administration three was 1 week. It seemed evident during administration three that lack of interest, possibly due to performing the same test three times during a 6-week period, negated to a considerable degree the attempts to motivate subjects by use of the specified social-incentive conditions.

The conditions under which the study was conducted made it impossible to control as closely as would be desirable the groups that were used to collect data for the study. The classes from which groups were selected met on successive periods during each day. Since consecutive classes used the same locker room for dressing, the effects of the social-incentive condition used in an effort to provide motivation for one group may have influenced the group that met the following class period. For the sit-up test for boys it became obvious during the testing that the best scores for each group were better than the best scores for the groups from the preceding class. This cumulative effect resulted in a mean for the sit-up test for the control group (last class period in afternoon) which is significantly higher than the means for each of the other groups. It is reasonable to assume that this influence was also active for the other tests even though it was not apparent during the administration of the tests.

For the level-of-aspiration groups, in some few cases goals were set for administration three that were extremely low relative to both level of previous performances and goals stated for administration two. These relatively low goals were one indication of a possible loss of interest on the part of the subjects, which loss might be attributed to the short time interval between test administrations.

The effectiveness of the competition-with-person-of-markedly-different-ability social-incentive condition for the boys is surprising. This condition, for the groups tested, ranked with level of aspiration as the most effective conditions for motivating subjects to better performance on physical fitness tests.

Investigation of the raw scores for the competition-with-markedly-different-ability group reveals that for some of the tests the scores for the partners who were competing were not far enough apart to be accurately classed as scores for "persons of markedly different ability." The pairings were based on composite scores compiled from the first test administration. The scores for each individual were, from test to test, not consistent for the seven tests. This situation resulted in cases in which scores for partners were quite far apart on one test and very close together on another.

Conclusions

The findings in this study would seem to warrant the following conclusions concerning the performance of tenth- and eleventh-grade boys and girls on physical fitness tests:

1. The level-of-aspiration social-incentive condition is more effective as a motivating force than are team-competition and competition-with-person-of-near-equal-ability social-incentive conditions.

2. The reliability of the measures of physical fitness tests is dependent upon motivation developed by the conditions under which the tests are administered.

Charles Harold McCloy and Physical Education—Dr. McCloy's Early Life[1]

James R. Little
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Introduction

A review of physical education literature from 1910 to the present shows that Dr. Charles H. McCloy was a prolific writer and that his works were published throughout the world. Arthur Weston writes, "Known in physical education as 'The Research Professor,' Dr. Charles H. McCloy combined the qualities of the physical educator and the college professor that command the respect of the intellectual." Dr. McCloy's career in teaching and research paralleled the growth of physical education as a profession. In 50 years of study, research, and teaching in the field of physical education, Dr. McCloy made many observations, accumulated many experiences, and learned much about the contemporary history of his field. At the same time he played an influential role in making physical education history.

Dr. McCloy's Early Life

Information concerning the early life of Charles McCloy was found in three autobiographical sketches. Two of these, "The Day I Became a Man" and "C. H. McCloy" were never published, but the third, "A Half Century of Physical Education," written in 1955, was published in 1960.

Charles Harold McCloy, born on March 30, 1886, in Marietta, Ohio, was the only child of William Alexander and Emma Langely McCloy.

Charles McCloy was not quite three years old when his father moved the family from Ohio to Dickinson, North Dakota, because he was transferred there by the railroad company that employed him. This small western town, located in the northwest corner of the state, was a trading center for the Indians from the Fort Berthold Indian Reservation.

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[1] This paper is a portion of a biographical study that will serve as a Ph.D. dissertation at the State University of Iowa. Bibliography may be obtained from the author upon request.

The years of his life in North Dakota seemed to remain quite vivid in Charles McCloy's mind. Dr. John Dratz, who was raised in Montana and later was a student under Dr. McCloy at the State University of Iowa, found that the similarities in their boyhood experiences "established a rapport that enabled us to get along and have a common ground for communication. It was not hard to draw him out on these boyhood experiences; he would bring them up in class and in interviews. He had a tremendously interesting boyhood."

Summers, Charles McCloy spent, for the most part, as a cowboy. As a boy of six, he was sent to a ranch to "season" and to become accustomed to ranch life. He was given his first saddle at seven and he learned to ride and to use a lasso at that time.

Present day records in the schools of Dickinson, North Dakota, do not establish when Charles McCloy began attending school. However, it is assumed that he entered the first grade in the fall after he was six. This assumption is based on knowledge of his age as a college student and the supposition that he advanced one grade each year.

Charles McCloy's father died at the age of thirty-two, shortly after he had invested in a hardware store in Dickinson. Emma Langley McCloy assumed the responsibility for running the store.

Mrs. McCloy, a partner in the hardware business, and her brother, Charles Langley, bought a ranch 30 miles north of town. Charles Langley ran the ranch and during the summer employed his 8-year-old nephew to herd cattle by day, paying him $15 per month.

The available autobiographical sketches do not specifically mention any events in the life of Charles McCloy when he was nine, ten, and eleven. However, in the years after his father's death, Charles McCloy's mother was so occupied in running the hardware store that she paid him little attention during the eight months of the year he was in Dickinson going to school. During the summer months, while on the ranch herding cattle, he was alone for all but 2 or 3 hours of the day. Dr. McCloy later said of these years: "Because I had so little supervision, I had to depend upon myself—to make my own decisions and act upon them. This, I think, developed a great deal of independence and self-reliance."

Young McCloy was very slender in build and accumulated a large number of nicknames. Nearly all of these indicated—either directly or by sarcasm—that he was a skinny, spindle-legged child. Some of these names used by his schoolmates were "Spindleshanks," "Skinny," "Pipestems," and "Splinters."

The psychological complex from these nicknames set the stage for the beginning of a life-long interest in physical education and in developmental activities.

Dr. McCloy wrote:

> . . . I wanted very much to have legs that were a little more sturdy than those I possessed.
>
> When I was twelve years of age, while traveling through St. Paul by train, at the depot I purchased a little booklet published by the A. G. Spalding and Brothers organization entitled "The Athletes Guide." This little book—which sold, incidentally, for only ten cents—was really a small textbook on track and field athletics. Each chapter was written by the amateur athlete who at that time held the American amateur record in his event. In the chapter on distance and cross-country running, the statement was made that that type of athletic activity would develop the legs! The day I arrived home I began to trot. At noon I ran from school down to the restaurant where I ate my lunch—a total of about a quarter of a mile—and leaned over a fence and lost the remains of my breakfast; I was in that poor shape. I persisted, however, and within a year was running three miles over the hills three times a week.

In addition to the running, the Spalding booklet stirred his interest in field events. In his yard, Charles McCloy set up a pair of high jump standards, a pair of pole vault standards, and a broad jump pit. He spent many hours in the practice of jumping and vaulting, utilizing these modest facilities. Using a five-pound rock, he also practiced putting the shot.

At the age of twelve, Charles McCloy's summer wages as a cowboy on the newly acquired ranch were raised to full pay of $30 per month, with room and board. The long hours spent alone herding cattle were partially filled by reading books borrowed from a rancher who was a college graduate with an English major. Dr. McCloy related: "I read Scott, Dumas, Dickens, and many other books of that literary bend, and developed a liking for something better than the general run of literary pot boilers preferred by so many of my (and the later) generation."

At the age of thirteen Charles McCloy spent his first summer at camp away from the ranch house and was responsible for his cattle both day and night. This new experience provided additional opportunities for developing independence and self-reliance.

The day Charles McCloy "became a man" occurred at age fourteen during the second summer that he camped away from the ranch house. Early one morning a cold wind and rainstorm came up suddenly, and Charles McCloy spent a very miserable day in the storm, bringing his bunch of cattle back to camp. The whole day he was in a rage, wondering why his Uncle Charlie did not send help. The next morning after his usual routine in tending the cattle, Charles McCloy rode to the ranch house and complained to his Uncle that he had not received any help the day before. His uncle's only reply was to ask the young cowboy why he thought he was being paid. Suddenly Charles McCloy realized they considered him a man. "In that flash I grew up—from that minute on I *was* a man. I suffered through numerous bad days after that, but it never once occurred to me to whimper like a kid or swear about it!"

The purchase of magazines while on a train trip through St. Paul, Minnesota, provided a second basis for Charles McCloy's expanding interest in physical activities, especially those of a developmental nature. The significance of the purchase was described by Dr. McCloy:

> . . . The contribution that this magazine [*Physical Culture*] made to me—and I immediately subscribed for it—was to awaken me to the fact that track and field athletics did not, necessarily, constitute the whole diet of physical education. I took advantage of the fact that my mother was engaged in hardware business, and through her purchased, wholesale dumbbells, Indian Clubs, a punching bag, boxing gloves, and a pair of flying rings. In addition, I had a trapeze bar that had been turned out of a piece of hickory wood. For a gymnasium I used our attic which extended across the whole top of the house. Mother had a floor put in, and I hung my rings and my trapeze, built a platform for my punching bag and utilized an old matress for tumbling. I bought more of the little Spalding books, most of which cost only 10 cents in those days, and tried to become expert in many activities presented in those books.

In addition to the summer ranching and the gymnasium activities, Charles McCloy recalled the influence of an unusual high school principal. The Dickinson High School principal was a Harvard graduate with a Master of Arts degree who had scholarly ambitions for his little high school. Some of the courses Dr. McCloy remembered from the first two years of high school were English, algebra, Latin, German, history, and physics.

By the completion of his second year of high school, Charles McCloy had decided that he would go live with his grandmother in Marietta, Ohio, in order to finish his preparatory education at the Academy of Marietta College. He felt that the opportunity to participate in athletics would be greater in Marietta than in Dickinson.

Charles McCloy became so convinced of the benefits one could gain from participation in physical activities by the age of fifteen that he decided at this early age to become a teacher of physical education.

During Charles McCloy's first year at the Academy of Marietta College, he organized a track and field team and was the captain of the team for two years.

From his schooling at the Academy, Dr. McCloy remembered the influence of five teachers: (1) the Latin teacher, who was also the teacher of physical education in the academy and the college, influenced him in the area of scholarship; (2) the principal of the Academy, who was also the teacher of physics, interested him in physics; (3) the English teacher impressed him with her requirement of perfection in writing; (4) the German teacher gave him an early interest in modern languages; and (5) the mathematics teacher impressed on him the value of mathematics in many professions.

Summary

The early life of Dr. Charles Harold McCloy as related in his autobiographical sketches shows the manner in which his adult interests and characteristics were beginning to develop.

From the time young McCloy was eight until he was sixteen he had numerous experiences during the summers which affected him in that he was given work responsibility on his uncle's ranch which provided opportunities for developing independence and self reliance, had an opportunity to read classical literature and to develop a liking for this type of literature, and was out of doors where he could run, hoping to strengthen his thin legs.

The schooling Charles McCloy received in Dickinson, North Dakota, and in Marietta, Ohio, provided him with an exceptional secondary school education. This academic training provided the basis for Dr. McCloy's future interest in language studies, physics, statistics, and scholarship in general.

Young McCloy's experiences which stemmed from his drive to develop his slender body were the beginnings of his life-long interest in physical education and developmental activities.

Current Concepts of the Relationship Between Physical Activity and Coronary Heart Disease[1]

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The natural history of coronary heart disease places some limitations on the kind and number of populations which can practically be investigated. Pathological evidence indicates that alterations in the coronary arteries begin in youth and are increasingly more frequent and more severe as age progresses. Practical considerations have driven most investigators to studying the fifth and sixth decades. Clinically recognizable coronary heart disease is so infrequent before the age of 40 that the population required for study is much too large. After the age of 60 or 65, individuals with multiple chronic diseases are numerous and the diagnosis of coronary heart disease becomes less certain. Investigators, therefore, have concentrated on the population between the ages of 40 and 60.

In the United States, there is found on examination of individual members of the male population of this age group, evidence that perhaps 3 to 4 percent have coronary heart disease. Follow-up studies suggest that every year for the first 5 to 8 years about 1 percent of men who have not suffered from clinically recognizable coronary heart disease will develop the disease. A little calculating with the chi square test will show that groups of 800 to 1000 men are needed to establish stable disease rates and to distinguish reasonable differences between groups. A stipulation attached to this number is that one must follow them for 5 years or more if incidence rates are desired. Larger groups are needed if the time interval is to be shorter. Where does one get men who are physically active in the age group 40 to 60 in groups of 800 or more? The answer that investigators have come up with is that you get them from occupational groups. This immediately involves the investigator with the characteristics of occupation. There are several aspects of occupation which must concern the investigator, but two of them are emphasized here: occupational selection and withdrawal, and physical activity patterns found in occupation. The first influences the disease pattern found in occupation selected for study, and the second defines the kind of activity that can properly be discussed in relation to coronary heart disease.

The results of the last decade of research in this area are best summarized by mortality, prevalence, and incidence ratios.

An incidence ratio is simply the result of dividing the rate of development of new coronary heart disease (expressed as numbers of cases per unit of population which appear over a given period of time) by a similar figure for a second population whose physical activity levels differ from the first.

The pioneering investigations of J. N. Morris in England provided the first concrete evidence that physical activity was related to the rate of development of coronary heart disease in middle-aged males. In studying the results, Morris noted that it was mportant to distinguish betwen two types of coronary heart disease, myocardial infarction and angina pectoris. Morris studied London bus conductors and drivers as examples of physically active and sedentary occupation groups. The incidence ratio for all coronary heart disease was 0.70 for conductors/drivers. That for angina was 1.98 and that for myocardial infarction 0.53.

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[1] Bibliography may be obtained from author upon request.

Angina pectoris is a milder, more benign form of the disease than myocardial infarction. Both conditions are associated with sudden death, but the first attack of myocardial infarction results in a mortality from sudden death of roughly 30 percent in the first few days. Morris studied the survival rate from the first attack of myocardial infarction and was able to show that the mortality ratio in the first 3 months after an initial attack of myocardial infarction was 0.46 for the conductor/driver ratio and 0.50 for the postman/clerk ratio. These findings support the hypothesis that coronary heart disease is less severe in men who are physically active.

The study of Zukel and his colleagues compared men living in Grand Forks, North Dakota, with farmers in the same area. The incidence ratio found here for farmers/town residents was 0.70 for all forms of coronary heart disease, 0.48 for myocardial infarction, and 1.87 for angina pectoris. Physical activity certainly is an important difference between men living in towns and those living on farms, but there are other socio-economic differences that might be as important as the factor of physical activity. Fox and Skinner, in reviewing the data, were able to obtain access to a physical activity questionnaire of the people who had coronary heart disease and a sample of those who did not. When people were separated into extremes of the activity distribution, i.e., into those who never experienced heavy work and those who engaged in some heavy work, the incidence ratio was found to be 0.18.

The data presented by Stamler and his colleagues are derived from his study of 784 men aged 50-59 at the start of the study on January 1, 1954, who were employees of the Peoples Gas Company of Chicago. The follow-up time is short, the groups are not large and the numbers of cases are small, but this is an example of careful design and is interesting for that reason. All the participants were carefully examined before the study started and were re-examined every year. Only those cases of coronary heart disease which occurred in men free of evidence of coronary heart disease at the beginning of the study were used for the calculation of incidence. Stamler presented incidence ratios of 0.75 for outdoor employees/indoor employees, 0.88 for light to medium work/sedentary, 0.78 for blue collar employees/white collar employees, and 0.58 for semi-skilled and unskilled employees/professional and skilled employees. However, this design provides one with the largest return of properly documented cases and avoids problems associated with occupational mobility. On the other hand, Morris and Zukel depended on report procedures either through company records or by organizing and checking with all the physicians in the area. Such procedures appear to give reasonably satisfactory results, but one cannot be sure that some cases are not missed, and it is certain that those silent infarcts which could have been documented by ECG's at periodic examination are all missed.

The work of Chapman and his colleagues, who studied civil service employees in Los Angeles, has been reported earlier after a 3-year follow-up and the data presented here were given to Fox and Skinner for their review by courtesy of the author. It represents a 7-year follow-up. The design used by Chapman is similar to that used by Stamler. The method of assessing the physical activity of the subjects was revised between the reports, and the number of cases here is not unreasonably small. In spite of this, there is not an important difference in the coronary heart disease rates. The incidence ratios (sedentary and light/moderate and heavy) are 1.03 for all coronary heart disease and 0.98 for myocardial infarction.

Brown and his colleagues examined 85 percent of the men 60-69 years old listed in eleven panels of English physicians in the Birmingham area and calculated prevalence ratios give the same general picture that was found in the incidence studies. The coronary heart disease (myocardial infarction and angina) ratio did not separate active and inactive groups as well as ratios based on myocardial infarctions alone.

Death-rate data were obtained on a prospective basis comparing active and inactive men in the railroad industry and the postal system. The mortality ratios (active/inactive) found in both investigations were of the same order of magnitude (0.70 to 0.48). Kahn studied 1664 white carriers who worked in Washington and were appointed between the years of 1906 and 1940. He was able to trace job changes between the clerical force and the carriers during this time period. He made the observation that physical activity of 5, 10, or 15 years ago may not be associated with change in current mortality. This finding may be of great importance and suggests that only continued exercise is important.

The data of Taylor and his colleagues are concerned with clerks as examples of sedentary employees, switchmen as examples of moderately active employees, and maintenance-of-way employees as examples of men who are required to perform heavy labor. The ratios here are derived strictly from deaths which occurred in men in service. They are in the general range of other incidence ratios.

Occupational classifications (by the physical activity required to perform the job) work in a reasonably satisfactory fashion and are not too demanding of the investigators' time since visits to the job site allow judgments to be made on the general level of activity of a large number of people in a relatively short time. On the other hand, it would be very useful to classify people by means other than the physical activity required by the occupation. Hammond has done this by asking a very simple question. Participants in the American Cancer Society study of factors affecting the development of cancer were asked the question, "How much exercise do you get (work or play)?" Men were classified by smoking habits and four levels of physical activity. Age-adjusted death rates from all causes were calculated. The highest rate (1,416/100,000) was found in the men who smoked 20 cigarettes a day or more and obtained no exercise. Heavy exercise and 20 cigarettes a day or more reduced this figures to 998/100,000. Men who never smoked and never exercised had a rate of 834/100,000 while the lowest rate (474/100,000) was found in men who did heavy exercise and never smoked. It is expected that these data will be broken down to death rates by cause and that further refinements will be introduced to make comparisons between men living in an urban environment and men living in a rural environment. Previous experiences suggests that coronary heart disease will account for a significant fraction of the differences observed in the death rates from all causes.

The prospective studies of coronary heart disease among 1838 men (39 to 55 years old at the start of the study) residing in Albany, New York, and among 2282 men (30 to 62 years old at the start of the study) residing in Framingham, Massachusetts, were used in a pooling study to determine the relationship of smoking to the incidence of coronary heart disease. The subjects were all completely examined at the start of the experiment and were followed for 6 years in Albany and 8 years in Framingham. It was found that heavy cigarette smokers experienced a threefold increase in the incidence of myocardial infarction as compared to non-smokers, pipe and cigar smokers, and former cigarette smokers. It is clear that if one is to draw an inference about the relationship of physical activity to coronary heart disease from data obtained in sedentary and physically active groups, one should be sure that the prevalence of cigarette smoking in the active group is either equal to or greater than that found in the sedentary group.

Another method of obtaining information on the relationship of coronary disese to physical activity is the retrospective study of men with coronary heart disease presented to an important medical facility in a community. An example of this is the work of Forssman and Lindegaard at the University Hospital at Malmo, Sweden. Sixty-two male coronary patients were chosen for study. Enforced randomization of controls was obtained by using the Malmo city register and selecting the control for each patient by taking the next entry of the same age and sex in the register. It was demonstrated that when the combined group of controls and patients were classified by serum cholesterol concentration as high, medium, and low, an excess of patients were found in the high and medium categories. On the other hand, when the patients and controls were classified according to daily physical activity, 8 patients and 7 controls were found in high-physical-activity category. In the medium-activity class, there were 30 patients and 31 controls, while 24 patients and 24 controls were in the low-activity class.

From the point of view of the individuals who make up the group employed in a population, it should be recognized that changes are continually taking place. Attitudes of employers toward those who should be hired are not static, and the desirability of certain jobs in the eyes of the job seeker are also subject to both alteration and reversal. It follows that factors affecting those who enter an occupation as well as factors affecting those who leave an occupation should be scrutinized if conclusions regarding relation of occupational physical activity to disease are to be valid. Morris pointed out that men entering the job of bus driver in the London Transportation System were fatter than those entering employment as conductors. It follows that part of the excess incidence of coronary disease found in drivers must be ascribed to this factor which the bus driver brought to the job.

It has been known for many years that occupational mobility and mortality rates are frequently highly dependent upon the tendency of sick individuals to move out of occupations at different rates. There is little direct information which bears on the occupational mobility of individuals with coronary heart disease.

It was decided to study this problem in the occupations which we have had under observation in the railroad industry. The Railroad Retirement Board maintains a 4 percent sample of all occupations in the railroad industry and this file provided the raw data for the analysis.

It was found that clerks left their occupation at a faster rate than switchmen. The percent of clerks employed in 1954 who were still in their occupation in 1960 was 71.4 percent for men aged 40 through 49 in 1954 and 65.6 percent for men aged 50 through 59. On the other hand, the switchmen remaining in their occupation after 7 years were 81.8 percent and 73.7 percent for the corresponding decades of age given above. The rate of medical retirement was about the same in the two groups. More clerks than switchmen had changed their jobs within the railroad industry.

The effect of this mobility on death rates was studied by tabulating the deaths occurring in men who remained in the occupation and those occuring in men who had left the occupation. It was found that in clerks, 25.7 percent of all the deaths in the 4 percent sample occurred after withdrawing from the industry, after changing occupations, or after retirement. The comparable figure for the switchmen was 33.1 percent.

On the basis of this knowledge, the method of collecting deaths from the files of the Railroad Retirement Board was altered. Death certificates for all deaths of those employed in 1958 were obtained. The social security numbers of those who died were collated against the social security numbers of the men in the cohort of switchmen and clerks. This procedure identified the men who had died outside of their original occupation. New death rates were calculated for the period 1954 to 1958. It was found that the mortality ratio of switchmen/clerks ascribed to coronary heart disease had increased to 0.81.

Information of this type was completed for the period 1954 through 1960 and death rates by quinquennia for the two occupations were calculated. The rates were calulated on an annual basis rather than a cohort basis to take advantage of the increased exposure provided by this method in the calculation of statistical significance. The mortality ratios for the quinquennia whose central age was 40, 45, and 55 were 0.75, 0.59, and 0.83 respectively. These differences between clerks and switchmen could occur by chance in less than one occasion out of 1,000. On the other hand, the quinquennia whose central ages were 50, 60, and 65 had mortality ratios which were not significantly different from one.

This study had demonstrated that in this particular situation, failure to take into account deaths ascribed to coronary heart disease in men who have either retired or moved out of the occupation will overestimate the apparent association between physical activity and coronary heart diesease.

You will note that no correction has been made for the possibility that retirement or change of job produced a change from an active to a sedentary existence. This is done because the data of Kahn, which indicates that the change in activity changes the risk, is at this stage only a suggestion. Also in dealing with the relationship of physical activity to coronary heart disease, one must always emphasize the problem of selection. The possiblility that constitutional predisposition to coronary heart disease goes along with preference for the sedentary job must always be kept in mind. Therefore, the conservative test of the hypothesis that physical activity has a protective effect on the development of coronary heart disease required that deaths be assigned to the occupation in which a man is found at the beginning of the study.

It would seem profitable to turn to another type of epidemiological data which has been used to characterize the association between coronary heart disease and the physical activity of occupation, i.e., prevalence.

In 1958 and 1959, some 3,000 railroad employees were examined and these men were characterized as to disease which could be identified by clinical methods usually applied in such investigations. We have followed the history of these 857 clerks and 840 switchmen (ages 40 to 59 at the time of examination). We did research in the files of the Railroad Retirement Board where we have collected deaths and disability retirements ascribed to coronary heart disease for 3 to 5 years. Over this period there were six clerks and nine switchmen who retired because of medical disability due to coronary heart disease. We have attempted to set up a model of the distortions produced in the population of clerks and switchmen by differential withdrawals of individuals with coronary heart disease.

It is assumed that if we had followed a sample drawn in a similar fashion for 5 years before the survey was carried out, the withdrawals of men from the cohort would be similar, provided proper age corrections were carried out. Disability withdrawals ascribed to coronary disease among those still living are now only two among the clerks and five among the switchmen. The age-adjusted prevalence rates have a ratio of clerks to switchmen of 0.57, while if the withdrawals are added, this rises to 0.72. There are, no doubt, those who will say that there are not very many cases there. And I agree with them. Nevertheless, what data we have indicate that prevalence rates in this population will be underestimated not only because deaths are not included but also because the coronary heart disease patients are leaving the active occupation faster than those in the sedentary occupation. Studies of the incidence of coronary heart disease in which the investigator follows up everyone who has been shown to be disease-free at the beginning of the study will avoid the errors that are related to withdrawal rates. We have eliminated from our cohort all those men who had evidence of cardio-vascular pulmonary disease at the beginning of the study and found that among the disease-free there were two cases of withdrawal ascribed to coronary heart disease in the clerks and two cases in the switchmen. This indicates that differential withdrawal by living individuals which discriminates against the incidence rate of coronary heart disease in the occupation requiring physical activity did not occur in this situation.

With the exception of Dr. Kahn's report on postmen and clerical employees of the United States Post Office in Washington, none of the epidemiological studies which have been published to date have taken the matter of mobility into and out of occupations into account. There appears to be a real possiblity that investigators have been overestimating the effects of the difference between the coronary heart disease rate in sedentary occupations and those requiring physical activity. Dr. Kahn found that 35 percent of the carriers became clerks while only 8 percent of the clerks became carriers. This is a very different experience from that found among railroad employees. Each occupation must be investigated separately if this factor is to be controlled.

Nevertheless, in the case of two separate employment situations, the hypothesis that the risk of developing coronary heart disease is less in occupations requiring physical activity than it is in sedentary occupations has survived the critical examination of correcting for occupational withdrawals.

The Role of Sports Medicine in Intercollegiate Athletics[1]

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The world of intercollegiate athletics continues to become a larger world as seen by an increasingly greater emphasis on the time expended, the effort put forth, and money spent by virtually every school. An analysis of the focal points of these energies reveals that, for most sports, there are essentially three areas of emphasis; these are: (1) recruiting highly skilled athletes; (2) studying skill techniques and strategy; and (3) conducting practice in skill techniques and strategy. That area which is now referred to as "sports medicine" is generally accorded but superficial attention. The reasons for this neglect, the trends to be expected, and the role of three important aspects of sports medicine in intercollegiate athletics will be examined.

Sports medicine, considered as a field of study, is relatively new in the United States although some European countries have been actively engaged in it for many years. It was only in 1954 that the American College of Sports Medicine was formed for the purpose of uniting the resources of various sciences and disciplines concerned with human fitness. Examination of the literature indicates that the term "sports medicine" is rather broadly conceived. The word "sports" may, in fact, refer to many forms of exercise which could not be construed as sport, such as exercise therapy and formal exercise programs. And "medicine" includes not only the medical doctor but also individuals from other disciplines who have a bond of interest in this field. The realm of sports medicine includes such facets as the medical aspects of sport, physical training for the purpose of improving and maintaining health, physical training for the improvement of performance in physical activities, prevention and treatment of sports injuries, and the psychological aspects of sport.

Most physical educators who are familiar with the sports medicine literature would probably agree that intercollegiate athletics stands to profit from a more scientific approach to many of their sports. Certainly there is considerable information available to the athletic coach and athletic trainer which would enable them to teach and train the individual athlete more efficiently. Perhaps an introspective look at why intercollegiate sport seems not to be cognizant of the sports medicine literature and the tools of the researcher is in order.

The vast majority of athletic coaches continue to use training methods which are based largely on empiric rather than scientific evidence. Consequently, dogmas are accumulated with their built-in resistance to change. And further, many coaches are reluctant to accept generalizations about sports training techniques which were made from experimental research conducted in laboratories. The newer breed of athletic trainer is less guilty of this.

Another factor involved is the type of literature the athletic coach and trainer subscribe to. The journals read are usually those which feature articles on skill techniques and strategy. There is a dearth of space devoted to research in such publications and often, when a research study is reported, it is of poor quality and may even be seriously misleading. Since time is always at a premium, it is almost impossible to keep up with the pertinent sports medicine literature which is now published in a myriad of journals. And adding to the dilemma is the observation that the research published in the better journals is rather sophisticated, and the average athletic coach or trainer may not have the academic background requisite for interpretation of the statistical treatment and findings.

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[1] Bibliography may be obtained from author upon request.

The program of the typical sports clinic invariably reveals little if any time devoted to a presentation of recent research findings as they apply to training techniques in the broad sense. Virtually all of the clinic time is scheduled around such items as strategy innovations, demonstration of techniques, practice of techniques, and a discussion of rules. It is rare to find a scholarly presentation dealing with such things as motor learning, the acquisition of muscular strength and endurance, or the acquisition of cardio-vascular endurance. It is, indeed, an enigma to find such a contrast in emphasis, particularly since coaches seldom overlook anything in their quest for winning meets, matches, and games.

However, there is every indication that sports medicine will become increasingly important in intercollegiate athletics in the years ahead. Several factors will tend to bring this about:

1. The international sports scene. The intenseness of the competition at this level will eventually result in a coordination of efforts to study sport and fitness more comprehensively. A team of sports medicine experts will be involved instead of just a few interested researchers collecting data for their own use. This approach is now being used in some European countries today. The results of such work will be felt very strongly at the college level, for most of our Olympians are college people.

2. The continued rise of professional sports in the United States. Recently there has been a trend to take a more scientific approach toward conditioning and maintaining the fitness level of the professional athlete since he is a very valuable piece of property; qualified workers in sports medicine have been employed for this purpose. However, much of the work done thus far has been unsatisfactory, for owners are reluctant to permit detailed research on $300,000 athletes. Since the professionals are emulated, in some sports, by the collegians, the sports medicine emphasis will undoubtedly be borrowed.

3. The improved academic preparation of athletic coaches and trainers. As the academic standards of colleges and universities continue to rise, the professional preparation of athletic coaches and trainers will be markedly improved. While today there are relatively few active athletic coaches and trainers who have completed a Ph.D., the number is sure to increase. And certainly the academically talented coach and trainer will not pass up the sports medicine phase of his sport.

4. The growth of sports medicine groups. In some communities, high school coaches and trainers have been joining with interested physicians and others to form local sports medicine societies. They meet periodically to discuss mutual problems and to conduct sports medicine programs. This movement portends great value to the participant in sport and to others concerned about the conduct of sport. Even if college people do not actively take part in such work, they will undoubtedly be affected.

5. The emphasis on winning. As the emphasis on winning continues to increase and the level of competition evens out, intercollegiate athletics will almost be forced to devote more time, effort, and money to detailed study of the athlete and methods used to train him. Efforts will be made to raise levels of performance by utilizing the knowledges and techniques of sports medicine workers.

To summarize, intercollegiate athletics over the years has made great strides in such areas as equipment, technique, and strategy innovations, but there has been a decided lag in the use of scientifically derived knowledge found in the sports medicine literature; however, this indictment is less valid for some individual sports. The approach to improving athletic performance has been in the main empiric rather than scientific, more pragmatic than realistic. Those intimately involved with intercollegiate athletics would be wise to step back and examine where their emphases or lack of emphases now lie, and if a need or omission is observed, they should act with intelligence and foresight.

On most college campuses there is at least one physical educator who, aside from being greatly interested in sport, is also familiar with the latest sports medicine literature, is knowledgeable in research techniques, and has several graduate students eager to undertake a problem dealing with some aspect of sport. Apparently, such "natural resources" are rarely sought out and used at present; the reasons for this are no doubt varied. However, in the not-too-distant future, the role of sports medicine in intercollegiate athletics will be a highly important one at the far-seeing college or university, and the sports medicine specialist may be a most valuable member of the intercollegiate athletic staff. Don't say we didn't tell you!

What Does Psychology Have To Offer Coaches and Trainers?

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The topic "What does psychology have to offer coaches and trainers?" is quite broad, and since time is rather limited I was in somewhat of a quandary as to what should be included. It seems to me, however, that there are two areas that are of particular interest to coaches and trainers: (1) how to plan practice sessions so learning is most efficient, and (2) how to deal with individual differences so performance is most effective.

Most of you have had courses in educational psychology and so are already familiar with much of the work done by psychologists in making the learning process more economical. Therefore, detailed coverage of the many generalizations in this area seems inappropriate. Because the topic of economy of learning is so important to us, however, I do not want to skip the area completely. Therefore I will touch briefly on several factors that seem to be most beneficial in planning and directing practice sessions and then spend the remaining time discussing individual differences that influence performance.

In teaching new skills the coach should endeavor to have the performer's first attempts as accurate and as correct as possible. During the early stages of learning the individual adapts a certain method of learning a skill or attacking a problem, and that method tends to persist even though it may be quite inappropriate to the particular skill in question. You are familiar with the golfer who started with an incorrect grip and twenty years later is still plagued with the grip. Further, this initial pattern is frequently more difficult to modify than it was to learn in the first place. For this reason early attempts at novel tasks are very important as far as subsequent performance is concerned, and every effort should be made to insure correct performance early in learning.

In psychological literature much space has been devoted to the "whole-part" method of teaching skills. Should the "part method" be used, the "whole method," or some combination of both? There has been a great diversity of results, primarily because the terms "whole" and "part" have not been adequately or consistently defined. The consensus seems to be, however, that when possible it is better to use the "whole method." When this is inappropriate and the task contains some hard and easy elements that can be logically separated, it has proved economical to learn the hard elements in isolation. The reason I would like to discuss the topic at this point, however, is because of an interesting approach by two British psychologists, Annett and Kay, that may help clarify the situation. They point out that there are two types of tasks: (1) those in which the responses of the performer do not influence the task to be learned, and (2) those in which the performers' responses directly influence the task. An example of the first type would be picking up objects off of a conveyer belt. An example of the second type of task in everyday life would be driving an automobile. Steering, shifting, etc., change the task from one instant to the next. In athletics an example of the first type of skill might be hitting a golf ball. Nothing the performer does will influence the ball before it is hit. An example of the second type of skill might be a wrestling hold. In this situation the interaction of the wrestler and his opponent (or partner) changes the skill from one trial to the next, until it leaves the learner in a position of attempting to master a new and different skill on each trial. In the first instance, where the task could be repeated without change, the "whole method" would be superior to the "part." In the second instance, where the performers' actions change the skill from trial to trial it is probable that the skill should be taught by the "part method," so that errors in the parts may be eliminated and variability decreased; otherwise the learner is in the difficult position of learning a non-recurring series of events.

We have mentioned variability and its effect on learning a motor skill; now let us consider variability in another sense. Once an athletic skill has been mastered it should be practiced under a variety of conditions approximating the actual game or contest. For example, a double play might be practiced with a man sliding into second, or a runner going between the hit ball and the fielder. In wrestling the contestant should practice escapes from his stomach, with his wrists tied up, on his side, etc., rather than from the usual referee's position. Basketball shooting should be done against a defender, hitting the golf ball should be practiced from a variety of lies, etc. In other words, we must train in such a way that performance is adaptable to varying circumstances and not tied to one rigid or inflexible pattern. Practice the skill as it will be used.

When a number of new skills are to be taught over a season or during a course the order in which they are presented becomes important. When new skills that are very similar are taught in proximity to each other the learning of one interferes with the learning of a second. When teaching a number of new skills at one session it is desirable that they be as dissimilar as possible. Once a skill has been mastered, however, other skills similar to it may be presented, using similarities and disimilarities between the original skill and the new one for purposes of transfer.

Knowledge of results (KR) is very important to leariing and performance. In fact it has frequently been said that without knowledge of results learning would not take place. Fortunately in almost all performances knowledge of results exist in one form or another. In general, knowledge of results can be classified as either extrinsic or intrinsic. By extrinsic we mean that the signals or signs that convey information are external to the performer. Intrinsic knowledge of results, on the other hand, is from within the organism and includes signals from the musculature and nervous system.

The most common example of KR is the end score. This might be the time in a mile run, the height of a pole vault, or the direction the golf ball goes when it is hit. This end score could serve as a concise summary of performance from which the participant may draw his own conclusions about any deficiency in the skill. Unfortunately, however, it does not tell exactly what is right or wrong with the performance. While the end score can be very beneficial for the skilled performer or the coach it is of little value for the beginner.

A second type of KR has been referred to by some investigators as "augmented feedback." In any task the participant is receiving a constant stream of signals, some created by his own responses, some by the task, some by the external environment. From this series of signals the participant has to learn which ones are relevant and which ones can be ignored. To the beginner all of the signals will be without labels. Thus he will have no knowledge of what value the signals may have for him. His early efforts in a new skill are rough and abrupt because he is attempting to pay attention to too many signals. It is only after he has identified the relevant signals and is responding to a limited number of these "key signals" that his performance smooths out. The task of the coach is to help the learner identify these relevant signals and know their significance.

One of the differences between the "good coach" and the "poor coach" is the ability to identify these relevant signals for the beginner so KR may become intrinsic. There are, of course, many ways that this can be done, but I would like to mention briefly two approaches that I feel have merit. To me, the most interesting study in the physical education literature dealing with this topic was done by Max Howell. He constructed a recording device that enabled inexperienced runners to compare graphs made by the force of their feet against starting blocks, with graphs made by experienced sprinters. The group with the KR made significantly more improvement than did a control group receiving no information. While the actual device used in this study is of little value to most of you, it suggests that equally creative attempts could be made to identify relevant signals for the learner. The second technique that I feel can be extremely beneficial is the use of rapid-sequence cameras that permit pictures to be developed within seconds. There are cameras on the market that will take a series of eight or ten sequence shots ranging from 1/50 second between shots to approximately 1 second between shots. Thus you can tell a golfer that he is dropping his shoulder, then show him the pictures immediately so he can see for himself. He then may be able to compare that "feel" with the "feel" he experiences when the form is correct.

To be effective KR should be given with as little delay as possible and should be as specific as possible. Further, every effort should be made to have KR become intrinsic. Frequently when extrinsic KR is removed performance deteriorates, particularly when the skill is not well learned. To make sure that the learner does not use extrinsic KR as a crutch in performance it is desirable to withdraw KR on some trials during training.

In the realm of individual differences the studies on level of aspiration have particular significance for the coach or trainer. The level of aspiration (LA) may be defined as the standard by which a person judges his own performance as a success or a failure, or as being up to what he expects of himself.

It is probably true that people evaluate themselves on two major attributes—the opinions they hold of themselves and the abilities they possess. Every coach has seen the following reactions to defeat. One boy, after being beaten by a conference champion or national champion would be terribly disappointed or even shamed, while a second boy would suffer no discomfort under the same circumstances. In fact, the second individual might actually react as if he had won. Two boys, the same situation as far as the contest was concerned, but two completely divergent reactions to defeat.

These different reactions to comparable situations obviously reflect the different expectancies or levels of aspiration of the individuals concerned. The satisfaction that a given response or level of performance provides an individual depends, to some extent, on the degree to which the performance measured up to the individual's expectation, or LA.

Some of the more consistent results from an extended series of level-of-aspiration studies are as follows:

1. Success experiences usually lead to a rising of the LA. For example a pole vaulter sets the bar at a height which he thinks he can clear; however, he sets it high enough so that he might possibly fail. If he is successful in all probability he will raise the bar on the next trial. With continued success his LA will go up.

2. Failure generally results in a lowering of the LA. If our pole vaulter sees himself as a 15-foot vaulter but fails to clear that height, he will lower the bar and thus his LA. While this may be quite obvious in pole vaulting it is not as noticeable in other areas. For example, in wrestling the contestant has no choice as to whom he meets. He cannot "lower the bar." He must wrestle the opponent selected for him. Thus the lowering of the LA would not be obvious.

3. The effects of failure on LA are more varied than are those of success. If our pole vaulter succeeds, almost without fail he will raise the bar. If he fails, however, he may lower the bar, may keep it the same, or even raise the bar.

The expressed LA may be used to protect the ego—or the feelings of the individual—from the effects of failure by being kept overly high or low despite the performance level.

If the individual experiences a performance below his LA and sees it as a severe threat to his self-esteem, he may keep his LA low to prevent such a situation from arising a second time. A second possibility is that the LA may be set so high that reaching it would be almost impossible; thus no one could blame him for failing. A boy who thinks he might be beaten, rather than competing, may in some cases actually refuse to participate. He may fake an injury or illness or find all sorts of excuses for avoiding the contest.

Finally, failure or anticipation of failure can decrease interest and attractiveness of a task until complete withdrawal occurs. All of us have lost boys from our squads for this reason.

4. In groups where comparison with others in the group is possible the LA almost always moves closer to the average performance level of the group. Practical everyday examples of this may be seen everywhere. At one time it was not fashionable to get better than the "Gentlemen's C." To be either above or below was less desirable than the standard. Although this standard no longer exists the level of aspiration as as to quality of academic work undoubtedly does and varies from college to college. Just as academic levels of aspiration vary, so does LA as far as athletics are concerned. Some squads are motivated to be national champions, some to be conference champions, and in some places the group feeling is that an all-out effort in athletics is an excess to be avoided. A question that has not been answered yet is—what effect does a strong leader have on this group LA? We have said that the LA tends to move toward the performance level of the group. Suppose an athletic group aspired to be mediocre. One strong individual comes along. Can he influence the group LA? Practical observation indicates that he could. Occasionally the attitude, motivation, or LA, of an entire group has changed because of one individual.

5. A person does not evaluate his abilities with others too divergent from himself. Persons with a reasonably accurate knowledge of their ability will, in general, not evaluate himself with regard to others who are obviously inferior or superior. Once

inferior or superior status has been conferred, there will be a cessation of competition with respect to those rendered incomparable. If individuals or groups of individuals are too much better or too much poorer than the opponent, different standards are used for evaluation. This often occurs in athletic situations. The beginning tennis player does not evaluate his performance against the varsity player—rather he compares himself with other beginners. Conversly, the varsity tennis player gets no satisfaction from beating an inexperienced player. Success or failure is not judged in this manner.

From the preceding discussion, it is apparent that level of aspiration may have many different meanings. A high level of aspiration may represent a direct expression of a goal, an incentive to perform better, or a means of protecting the ego. A low one may express an objective judgment, a method of avoiding tension, or a way of avoiding the appearance of failure. In summarizing LA, the coach should make it possible for the boy to achieve success in one way or another, thus raising the level of aspiration. The effect of failure is too unpredictable to utilize in teaching.

The last general topic that I will discuss is that area which deals with the effect of anxiety and stress on performance. Studies in this area are of particular importance to coaches since every contest creates a stressful situation, both for the coach and the contestant. To oversimplify somewhat, there appears to be an inverted-U-shaped relationship between anxiety or stress and performance. If the performer is completely lethargic performance is poor. As anxiety or the stress of the situation increases, performance will improve up to a point. Beyond this point an increase in stress or anxiety tends to impair performance.

These are typical situations in athletics. All of us have seen the boy who performs in a lethargic manner all week, but in the game situation his performance is much better than would be predicted from his practice. Just as typical is the boy who looks like an "All American" in practice, then during a contest appears to choke. The implications for the coach are obvious. While there are personality or anxiety scales that will rate individuals on the factors we have discussed, probably none of them are as effective as the coach's subjective judgement of the individual after he has had the opportunity to observe the boy in a variety of situations. The high-strung or anxious individual should be calmed down, while the more lethargic individual must be motivated. I am reminded of the cartoon that shows the coach giving his team a half time "pep talk," then all the team members running out the wrong door and into a swimming pool.

It might be pointed out that the deleterious effects of stress are most evident in new or unfamiliar situations. By becoming acquainted with strange situations and by increasing familiarity, the stress can be reduced. It also appears that when attempting to alleviate the detrimental effects of stress the gradual introduction of the cause of stress is more effective than sudden introduction. In other words, rather than throw the non-swimmer into the water to sink or swim it would be better to attempt gradual familiarization with the water.

A Discussion of Some Basic Principles of Muscle Training[1]

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The fact that man can be improved biologically when exposed to systematic physical training is much of the incentive for people engaged in the instruction of sport. Broadly conceived, muscle training enlarges the athlete's capacity and skill of performance.

The science of muscle training is founded on the principle of overload, which relates exercise progression to benefits derived. Because of its direct expression as the frequency of muscular contraction, the duration of muscular contraction, and the degree of muscular contraction, its application is temptingly simple. The art of its most effective use, however, must be based on the biological law of individuality, which is frequently disregarded by the scientist's laws of chance and the practitioner's zeal for maximum results in minimum time. That is to say, people are different; and, thus, to obtain the best results, they should be trained differently. Biologically, individuality starts with the history of the gene and the spontaneity of mutations; environmentally, differences are emphasized by the habits of life and the speciality of sports participation. To a large extent these are factors that are indeterminable, but a thorough analysis of the requirements of the sport on the competitor and closer attention to the trainability of the athlete is the logical place for muscle training to begin. This is the foundation of this presentation, and my intent is to indicate some principles important to a muscle training program which is prescribed rather than imitated.

The trainable qualities of skeletal muscle are *strength, endurance, flexibility,* and *skill.* A sport may place prime value on a specific factor, as with the football charge and strength, distance swimming and endurance, baseball pitching and flexibility, and the golf swing and skill. At the same time, the relative value of total muscle fitness must be assessed, as the aforementioned qualities are not totally independent. Strength gained by isometric exercise may affect endurance gained by isotonic exercise. Skill gained by the repetition of specific movements will fail if the endurance is inadequate to complete the event. Strength is ineffective if the flexibility developed from static and ballistic stretching movements is insufficient to allow force exertion over a large range of motion. Also, as the training emphasis shifts from strength and flexibility to skill and endurance, the procedures become less specific to the muscular system, more complicated, and more time-consuming.

Strength is generally considered as the capacity of muscle to exert force either statically or through a range of movement. In the held position, as frequently required in gymnastics, strength is important to the arrest of body momentum and resistance to gravity. When motion is required, the ability to exert force is essential to the velocity and power of movement. If the development of strength allows for the same force exertion with fewer muscle fibers, the resultant decrease in intramuscular tension would allow for greater blood flow and greater endurance against a given external resistance.

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[1] Bibliography may be obtained from author upon request.

Muscular strength is essential to the prevention of athletic injuries caused by abnormal movement. The medial strength of the ankle joint has protected the athlete from inside sprains although the weaker lateral side remains susceptible. The most powerful protection of the knee joint remains the quadriceps and hamstring muscles which provide structural support and also contract to restrain movements injurious to the cartilage and ligaments. After joint injury, the restoration of strength is a prime concern in the rehabilitation process.

Endurance is the ability of muscle to sustain tension over periods of time or repeated contractions with negligible rest. In Cannon's classic, *The Wisdom of the Body,* the point is made that speed belongs to youth and endurance to age and experience. The associated build-up of respiratory-circulatory capacities, upon which muscular endurance is based, is acquired only after years of continuous training. The case study of DeMar, who competed successfully in the Boston Marathon at age 66, illustrates this and supports training into the normally indolent years. The success he gained was achieved only by years of running 12 miles daily.

To sports medicine, measures of muscle continuance have been valuable as predictors of the sportsman's capacity for exhausting events. In addition, the ability to resist fatigue is valuable protection against the physical hazards encountered in sports competition.

Flexibility is that quality of muscle which allows it to extend over a range of motion and still retain its normal contractility. Kinesiologists agree that flexibility contributes to sports proficiency in that it permits a stretch on prime movers; thus it allows a stronger contraction and permits the force of contraction to be applied over a greater distance. Near the end of the baseball windup, for example, the shoulder of the pitcher starts forward while the ball in his hand continues backwards. The greater the pitcher's flexibility, the greater the "whip" action on the ball.

Flexibility in antagonistic muscles is important in the prevention of muscle injuries, especially with fast movements of the limbs. The ability of the hamstring muscles to extend on the forward stride of the sprinter reduces the possibility of injury to these posterior muscles. Unless prime movers become occupied with noncontractile tissue, the danger of structural injury to them appears of less concern.

Skill of muscle is the technical ability of muscle to complete movement with a minimum of effort and a maximum of precision. The explanation for skill remains obscure within the function of the central nervous system. Usually, we think in terms of sport execution; involuntarily, the muscles play different roles in different skills. The triceps function to extend the elbow; the triceps also function to prevent the undesired movement of elbow flexion when the extended elbow is turned over with the palm up. This is a simplified example compared to complex athletic movements. The neural phenomena which allow the muscles to play their intended role, to contract at the proper moment and in the desired order are the bases of athletic form.

The steady improvement of athletic achievement must indicate effectiveness of present systems of muscle training, but this is not to exclude the significance of more competitors of better stock. The findings from neither physiological nor physical education research have championed one training system to the exclusion of others; however, a specific trainable quality of muscle may be favored by a particular method of exercise.

Isometric training is a system of exercise which utilizes muscle tension without movement of bony attachments. Science and practice has indicated this form of exercise as an efficient manner in which to increase strength, although it remains unequated with other forms of training. Hettinger and Mueller have suggested two-thirds maximum contraction conducted daily for six seconds as adequate to bring maximum development of strength. Subsequent studies support the duration standard, but generally indicate maximum contraction three to six times daily.

In addition to the tension stimulus, it is obvious that isometric exercise allows for specificity of training throughout the normal action of a muscle or muscle group. The baseball throw and the football pass are both overarm patterns, but the shortened lever used by the quarterback and the change of position of his hand are enough to alter his force application from that of the pitcher. Isometric training within the pattern of the throw allows each competitor to develop strength consistent with the form of his assignment. Similarly, the force curves plotted in the classic work of Bethe and Franke verify altered capacities of muscle in different positions. Where great force is required throughout a complete range, as frequently in wrestling, isometrics allows strengthening of muscle where the mechanical advantage is least.

The disassociation of movement from isometrics has allowed for exercise without antagonism to injured articulations. Bender has found this system useful in work with injured professional athletes. Some physical therapists concerned with post-injury restoration of strength have used maximum tension exercises at the susceptible hinge joints where movements are simple. However, where more complex movements are possible, as at the ball and socket joints, muscle substitution may limit the benefits of this form of muscle training. The sources for isometric exercises are bountiful although unnecessary with an elementary knowledge of muscle action. The majority of isometric systems popular today are based on the manual methods of muscle testing developed long ago by physical therapists and orthopedic surgeons. For this reason, I would refer you to the work of Williams *et al.* and Kendall and Kendall for more specific procedures.

Isotonic training utilizes exercises in which both muscle tension and external movements are employed. Dependent upon the form of its application, it may serve any of the varied needs of muscle training. DeLorme has indicated success on the principle of high resistance with low repetitions for the development of strength, low resistance and high repetitions for the development of endurance. The practical experience of weight lifters indicates progressive resistance for strength after ten repetitions of a given exercise can be completed. Berger has found maximum strength gains occur when the subject trains three times a week using three sets of 6 RM (repetitions maximum)—the maximum weight that can be lifted through a range six times consecutively. The findings of Cureton have led him to conclude that the quality of muscular endurance is best obtained by continuous rhythmical exercise of low resistance systematically increased by repetition. The evidence would seem to support DeLorme's applications of isotonic training for strength and endurance.

Basing his judgment on the measurement of athletes, Leighton has concluded that flexibility patterns exist for individual sports. To an extent, normal skill practice should be sufficient to develop the flexibility requirements, but under other circumstances this can be an erroneous assumption. Informal flexibility measurements on my kinesiology students have revealed many instances in which flexibility has been lost. The explanation for this has frequently been traced to earlier habit patterns, as carrying a milk pail, or to previous athletic injury. In the latter case, the effects of the injury outlasted the pain; and in both cases athletic performance was unknowingly handicapped.

DeVries has suggested the following classification for stretching exercises:

Static stretching: The method involving a held position with no movement slow or fast, in which body segments to be stretched are locked into position of greatest possible length.

Ballistic stretching: The method involving quick movements characterized by quick jerks and pulls upon the body segments to be stretched.

Longitudinal studies do not seem to favor one form of stretching exercise over the other for the obtainment of flexibility. The natural tendency for muscle to contract when stretched, however, may predispose the muscle to injury if the momentum of the ballistic stretch is excessive.

Isotonic exercise is preferable to isometric exercise in the development of muscle skill. In 1960, Mohr reviewed over 400 research studies in psychology and physical education and concluded that the acquisition of skill best accrued from specific practice of the particular muscular movement. The relentless repeat of isolated movements allows for the inhibition of undesired neural impulses and the facilitation or enhancement of the flow of those that are agreeable to the task. In this sense, learning the piano is identical to learning the lineman's pull in football; and it is only as we become involved in extraneous matters that we fail to benefit by the musician's example of practice.

In summary and as an effort to consolidate some thoughts, the following recommendations are considered important to the topic of muscle training:

1. Although a selective group, athletes must be trained as individuals. Acceptance of this principle requires individualized programs of training and careful observation of the manner in which each competitor responds to the application of overload.
2. Muscle training starts with analysis which presumes answers to several basic questions. Does the sport require specific trainable qualities of muscle in great demand? Can the requirements of the muscular system be consolidated in training, and, if so, in what manner?
3. Although agreement is not universal, it is generally accepted that isometric exercise is most efficient for the development of strength and isotonic exercise, in its various forms, most beneficial in the development of endurance, skill, and flexibility. While isotonic systems are valuable for their various applications, the specificity of isometric training is useful in athletic injury rehabilitation.
4. Fewer assumptions and more attention need be given to the muscular flexibility of the athlete. Simple measures using the goniometer or other devices need to be taken, especially after athletic injury. The physical therapists' technique, which compares prefrered and opposite limbs, provides an adequate standard. Ferguson has also suggested suppling exercise following isometric training, as exercise against a fixed resistance can lead to functional shortening of the muscle.
5. Consideration needs to be given to the role of fatigue in muscle training. Again, people are different, and generalizations are limited; but it is possible that there is a physiological upper limit after which biological decadence occurs in the qualities we attempt to improve by muscle training. This is most likely to be true of endurance training where best results must be obtained after a long and gradual build-up.

To this I would add encouragement to utilize available sources and information on muscle training. Many universities now maintain well-equipped and well-staffed laboratories in pursuit of the topic I have discussed. As higher education is calling for interdepartmental and interdisciplinary cooperation, the common denominator of sports and the sportsman could provide mutual benefit for athletic programs and physical education research.

New Evidence of Cardiovascular Endurance Training

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Athletic achievements at new levels have been occurring with regularity. Endurance events have come in for their share of new sports records. The 4-minute mile is history, as are many new swimming and other records. The 1936 Olympic men's swimming records are now broken by the women. Greater development of cardiovascular endurance and better training methods are largely responsible for these achievements. It is relatively easy to note that the physiological threshold of man is much greater than the psychological, and that the limits of the former have not been reached to date. Interval training and overload have been used by such great distance running coaches as Gerschler, Lillard, Bowerman, and Stamfl. Cureton, Counsilman, and others, have used similar methods with swimmers. However, very few documented studies have followed athletes through a training season except some by Astrand (1964). This type of research would appear to be profitable in light of present knowledge and methodology.

Cardiovascular endurance may be defined as the ability of the body's circulation to maintain a metabolic equilibrium over a period of sustained physical effort. This includes the transport of energy, oxygen, carbon dioxide, and other metabolites. Brouha (1960) and Christensen (1953) define heavy work as 2.5L of 0_2 per minute This standard may need to be revised. Assuming an average man's weight to be 70 kg this would be about 36 ml/min/kg, or approximately 45 percent of maximum values for elite athletes and 65 percent of maximum values for trained personnel.

The measurement of cardiovascular endurance or total circulation is usually accomplished by estimates of the cardiac output of the ventricles. This is not a particularly easy procedure, and therefore maximum 0_2 intake is substituted. The latter can be performed routinely. It is the most reproducible and critical measurement presently available. The Astrands (1952 and 1960) have developed the most extensive material on both sexes using this procedure. Robinson (1938), Taylor (1955), Dawson (1945), Metheny (1942), Dill (1942), Hollman and Knipping (1961), and Cassels (1962) have all contributed standards of performance. Astrand (1955) has recorded an 0_2 intake of 5.88 L/min or 81.7 ml/min/kg in a cross-country skier. In this case the performer was stressed by skiing. Usually stress is applied in the laboratory by means of a treadmill, bicycle, or stepping bench for 2 to 8 minutes. The expired air is collected, analyzed, and calculated for the 0_2 consumed. The assumption being that the amount of work performed is equal to the oxygen consumed and/or the cardiac output. Coaches wanting to know the cardiovascular fitness or endurance of their athletes may obtain it by measuring the maximum 0_2 intake. The cardiovascular function can easily be pin-pointed. In this manner the coach will know how much to stress the athlete and how to regulate the training program.

Astrand (1952) has shown that the 0_2 intake is almost constant from age 7 to 33 in the male when equalizing for body size by using kilograms of weight. Females perform at approximately 80 percent of men at age 14-29, but after 60 years the women surpass the men (1960). Swimming gives a maximum VO_2 of about 85 percent of gravitational stress (1961). Loss of circulatory function occurs primarily because of lack of use of the heart and circulation, except at old age when it diminishes rapidly.

The development of somewhat empirical training methods has been very successful in view of athletic results. The use of interval training has proved to be of great benefit for all ages, both sexes, and both pathological and non-pathological subjects. The 0_2 consumption of the heart muscle is only slightly increased by vigorous exercise according to Brouha (1960). Some of the changes outside of the heart which occur with training include vagus tone (Raab 1960) and peripheral vasodilation (Karvonen 1959). A decreased 0_2 requirement of the myocardium (Mellerowicz 1961) has also been shown. The latter is of particular importance in dispelling the old concept of injury to the heart by vigorous exercise. On the contrary, rhythmic exercise aids the heart muscle to be more efficient in its 0_2 utilization and to build cardiac reserve. The latter is usually lost by lack of physical activity and thus makes the heart more vulnerable to failure.

Probably the best developer of cardiovascular function is running. However, cycling, mountain climbing, swimming, rowing and cross-country skiing are also excellent developers. Many runners follow Gerschler's chart for outlining their training schedule. Cureton (1961) has named several principles in endurance development: (1) the subject gradually adapts to stress; (2) enduranc is specific; (3) optimum pace is essential for resulting changes and particularly capillarization; (4) vitamin deficiency may occur; (5) additional sleep is required; (6) overeating should be avoided; and (7) competition and motivation are necessary. Karvonen (1957) found that a heart rate of 150 per minute is required to increase the cardiovascular endurance over a 30-minute interval during a 4-week period of training. Noon (1963) compared speed and overdistance training in high school runners and found a slight advantage to the latter. Kasch (1952) observed the R.Q. (respiratory quotient) of a marathon runner at 12 miles to be 0.70. After two minutes it rose to 0.78 when a glucose solution was administered by mouth. Thus it would appear that the 26-mile marathoner should receive energy during the race in order to maintain optimum pace.

Erroneously many coaches and athletes assume that most sports develop cardiovascular fitness. Cureton (1963) and Kasch (1964) have found that the 0_2 intake of sportsmen was average when compared for age, sex, and body weight and that it could be increased with endurance training. Cardiovascular training, in addition to aiding in the possible prevention of coronary heart disease, can also help the non-endurance athlete. For example, the pole vaulter needs his best performance near the end of the competition, when the crossbar is at the higher levels. By endurance training he can minimize fatigue and thus give his best effort when it counts the most rather than fail because of partial exhaustion. Most basketball games are decided during the last five minutes of play. Here again additional endurance permits the player to perform at full capacity rather than permit exhaustion to hinder his skill. The football player needs only a split second advantage over his opponent to produce the winning play or catch a pass by beating a weary defensive man. It has been said that injury is more likely at times of fatigue. Endurance training can help prevent player injuries as well as enhance performance.

Degenerative diseases have been increasing in the United States for the past 50 years. Heart and lung diseases lead the list. Coronary heart disease kills about 524,000 annually in the U.S. Countries with the greatest incomes and luxury are affected the most. Civilization is killing us. Brunner (1964) has shown that 2.7 to 4 more deaths occur among sedentary Israelites, as compared to those actively tilling the soil. Morris (1953) found similar results among active and less active Englishmen. Balke (1961) states that endurance work aids in metabolizing lipids and thus may inhibit atherosclerosis. Athletes' longevity is equivalent to non-athletes (Dublin, 1932, and Montoye, 1957). Jokl (1964) found that Olympic athletes 10 years out of training are as prone to circulatory degeneration as sedentary persons. Rodahl (1961) found the 0_2 intake and thus the circulatory functions to be greater in Swedes than Philadelphians. Kasch (1964) has shown that trained middle-aged Americans are at least equal to the Swedes and Germans in work capacity. Hollman and Knipping (1961) placed the critical point of circulatory efficiency at 1.4 to 1.6 l of 0_2 per minute. This does not allow for differences in body size. Today a great need exists for developing cardiac reserve and preevnting coronary heart disease. Endurance training is a great part of the answer to the problem, but unfortunately the motivation of the population is nil. How can Americans be stimulated to action? Can sports help? Yes! The development of cardiovascular endurance and the knowledge of its importance can be instilled into all athletes. A new philosophy of sport must be born. From here must develop a whole new philosophy of recreation (Martin, 1958) for all Americans. Vigorous endurance exercise must be adapted as a way of life. This does not preclude the social and other attributes of sports.

Cardiovascular fitness or function contributes to mankind in the following ways: (1) it improves the performance of most athletes; (2) it aids in the prevention of athletic injuries; (3) it improves the cardiovascular system for longer, more active lives; (4) it helps in the prevention of coronary heart disease.

To fully gain these advantages two changes appear necessary: (1) the introduction of a new philosophy of sport; (2) the development of a new philosophy of recreation.

HISTORY OF SPORT

The Cultural Approach to Writing Sports History[1]

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Before examining the major concern of this paper, it seems appropriate to deal briefly with the criticism most often utilized in efforts to minimize the value of historical research. There are those who indulge in the delusion that a purely scientific orientation is the only evidence of intellectual sophistication. They, with their well-ordered mental make-up, are skeptical of anything devoid of statistical analysis. How, these critics question, can historians derive valid conclusions without making quantitative evaluations? Many historians have voiced satisfactory answers, but David M. Potter's succinct defense exists as one of the better statements. He wrote:

> . . . history has dared to seek the answers to questions which other disciplines would have declined for the lack of an adequate method. History has never held itself aloof from life or guarded its own purity by confining itself to topics for which it possessed a fully tested methodological and conceptual apparatus of attack. It has never permitted the tyranny of method to dictate the subjects which it would investiagte and has never shifted its attention from men to mice because of the seductive fact that mice lend themselves to precise investigation more readily than do men.

While historians are willing to recognize the need for improved techniques and a refined philosophic viewpoint, they refuse to accept the proposal that existing inadequacies make all research efforts valueless. Instead of surrendering to the opinion of the united minority, they have continued to pursue the study of history while searching for a better methodological and conceptual apparatus of attack.

Progress in this area is slow, because it is difficult to unite the body of scholars on a set of standards. The most important change came after the appearance of Frederick J. Turner,'s "The Significance of the Frontier in American History," in 1893. Nineteenth century historians had restricted their efforts to narrowly conceived, totally factual, unanalytical studies of great men, political and military, and great events, political and military. After Turner's dramatic departure from the traditional pattern received widespread acceptance, historians took a more active interest in analyzing social and economic events. While Turner-inspired studies have contributed much to our understanding of the past, there remains a need to re-examine history from another point of view.

Two historians, Frederick L. Paxson and Ralph H. Gabriel, used Turner's thesis to explain the rise of sport. Americans, they concluded, turned to organized games when Eastern urbanization eliminated the traditional pursuits of an out-of-door people. Spectator sports became popular because there was not sufficient space for participant activities. While the Paxson-Gabriel thesis has merit, it does not explain why participants and spectators in such rural states as North Carolina, Oklahoma, and

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[1] Bibliography may be obtained from author upon request.

Washington, prior to the century's turn, exhibited so much enthusiasm for competitive games.

Students at Oklahoma's territorial university prepared a football field on a site with the fewest number of buffalo wallows. A single strand of wire around the area served as a restraining barrier for spectators. In this case, neither participants nor spectators were forced to accept competitive sport as a substitute for traditional leisure-time activities. It is also evident that residents of the B and E Ranch in Billings, Montana Territory, were not restricted because of space considerations in their choice of leisure-time activities. Yet, when frontier photographer Frank Jay Haynes visited the ranch in 1885, he found a carefully marked tennis court within a few feet of the front of the house. Members of the household, one with racket in hand, proudly posed behind the court for Haynes to record the scene. It should be remembered that lawn tennis did not reach the United States until 1874.

Sport was more than a substitute for such traditional pursuits as hunting and fishing. Therefore the cause-and-effect approach (space limitations causing adoption of competitive games) does not permit historians to satisfactorily deal with the subject. While broad generalizations are a serious danger, the historian does need to discover a unifying factor: "what is distinctive in the circumstances, the conditions, and the experience of the aggregation in question."

Workers in the relatively new field of American studies are actively engaged in this search for a unifying factor. The field is an interdisciplinary area in which individuals combine the study of history, political science, literature, and sociology in their search for meaning in the experiences of Americans. To the American studies person a history of events "would be devoid of intellectual challenge if it were merely a literal recording of any events that chanced to occur within American territorial limits." They are vitally interested in "why a special segment of events befell a particular aggregation of people" but are less enthusiastic about events which might have happened to anyone. In both method and concept, students of American studies are dedicated to the cultural approach to history.

There is no doubt about the importance of cultural studies in sports history: a number of outstanding authorities have underscored the need for interpretive works in the area.

Harvey Wish, after reviewing the available materials on sport, said, "Most of the books on sport are merely catalogues of events or exclusively descriptive." Dixon Wecter observed that many explanations for the rise of sports "have been felt or hinted before, but their synthesis has never been made." In the section devoted to sports in an important contemporary study, the author's introductory remark was: "On American sports there are regrettably few available sources." The Library of Congress research staff reported the existence of an ample supply of guides, handbooks, encyclopedias, and annuals, but, they wrote, the works "do little to indicate any significance in the game for the American experience." Vance Packard wanted to do a chapter on sports in *The Status Seekers,* but he could not find complete or reliable studies. "Broadly speaking," he said, "there is almost nothing on sport in the whole branch of letters."

These writers and other American studies scholars view the role of the historian as one of creating accounts of the "dynamic external forces operating upon men and of the reactions and responses of men to these forces." For such accounts, "it is necessary to take an analytical view both of the dynamic factors which have operated and of the human receptors—either individual men or individual societies—upon which these factors have had their impact." Cultural historians, then, attempt to apply the same analytical standards to both sides of the equation. They choose not to discuss the influence of economic determinism without giving full consideration to the human factor.

Basic to all cultural history is the identification of the characteristics that have distinguished Americans. This necessitates the reduction of motivation to its lowest common denominator. For the answer to this important question, American studies scholars have turned to the researches of behavioral scientists. The consensus is that the desire for success has always motivated Americans. Success, according to American standards, "is measured not by what one possesses in wealth or position but by what one has gained; it is not attainment of a fixed goal but advancement to a higher level." In their struggle for continuous advancement, Americans have energetically engaged in competitive situations. Therefore, it can be concluded "that the American character is in a large measure a group of responses to an unusually competitive situation." These guideposts, the desire for success as the primary value and behavior as the result of responses to competitive situations, provide cultural historians with a basis for investigating and evaluating the experiences of Americans.

Among the behavioral scientists who have contributed much to the study of existing values and behavior determinants are: Karen Horney, a student of psychoanalysis; Margaret Mead, a cultural anthropologist; and David Riesman, a social psychologist. Their studies suggest several research possibilities for sports historians.

Competition, Horney decided, "means rivalry, and rivalry carries with it hostile tension between rivals. Hostile tension produces fear of failure. These fears weaken the self-esteem of the individual, and weakened self-esteem leads to an excessive craving for love." Literature, in the form of the novel, often provides the American studies person with valuable insights. In evaluating Horney's conclusion, sports historians can employ at least two autobiographical works: F. Scott Fitzgerald's *This Side of Paradise* and Thomas Wolfe's *Look Homeward, Angel.* Amory, Fitzgerald's hero, feared body contact, but an even greater fear was the chance that he would not gain peer recognition unless he became a candidate for the team. On the field, "He played football intensely, alternating a reckless brilliancy with a tendency to keep himself as safe from hazard as decency would permit." A welcomed injury permitted Amory to retire from the game without the threat of a reduction in social position. Wolfe's Eugene wanted to enjoy the public recognition accorded athletic heroes; but, in Eugene's words, "he was in no way able to submit himself to discipline, the hard labor, the acceptance of defeat and failure that make a good athlete . . . And after that he wanted to be loved. Victory and love."

Both Mead and Riesman used the immigrant break with tradition to explain national character. First- and second-generation Americans, they found, have either clung to their hereditary culture or have experienced guilt in abandoning it, while third-generation youngsters have embraced the traditions of the new environment. Riesman employed the changes in ethnic composition of the All America Football Teams to support his conclusion. His brief analysis of the All America rosters is only one example of the opportunities available to sports historians to test a thesis. For example a history of the Turner movement in America would certainly reveal a conflict between American and transplanted German traditions.

The purpose of the behavioral scientists was "to arrive at an objective measure of the traits that exist, rather than to explain the origin of such traits." To discover when and under what circumstances these traits become a part of the American character is the task of historians. In at least two instances, the origin of one concept of success can be reduced to rather brief chronological periods.

America's first recorded intercollegiate contest was a boat race between crews from Harvard and Yale in 1852. No intensive training preceded the event; in fact, participants considered the entire affair a "jolly lark." Following the race, crew members did not express feelings of elation or remorse. They regarded participation in the contest a rewarding end. However, a few years later victory was the only satisfactory outcome.

Several parallel developments took place during the early years of intercollegiate football. Expressions of good will followed the contests played between 1869 and 1875. Players were convinced that the real value in friendly rivalry was the opportunity to display gentlemanly conduct. After 1875 winning became the primary concern of contestants, and everything else was eventually relegated to a position of secondary importance to this single value standard.

Available evidence seems to indicate that participant attitudes toward two different competitive sports changed radically during a brief span of years. The only plausible explanation is that social pressures precipitated a realignment of values. If sports historians can isolate the factors responsible for the change, they will immeasurably aid efforts to understand our past.

Differences between the traditional and the cultural approaches to sports history may best be shown through the employment of an example in the form of an imaginary research problem. A historian interested in intercollegiate football may choose to do a factual narrative. To reach his goal, he can, from the records, reconstruct such past events as exciting games, exploits of coaches and players, or the evolution of equipment and rules. He may complete a successful study without considering the role of external forces or human factors.

If the historian decides he cannot adequately deal with intercollegiate football without giving attention to higher education, he has recognized the importance of external forces. Football's relationship to education, during the early years, may properly be pictured as an appendage to the institution.

As time passed, the nature of the relationship underwent changes. In order to treat the subject completely, the researcher must be aware of all shifts in conditions that took place within the chronological limits of his study. The relationship of football to education in 1917 was not identical to the one that existed in 1869. Of course the most difficult task confronting all writers is to adopt the period rather than the contemporary frame of reference.

The writer's recognition of changes in condition will no doubt suggest to him the existence of several external forces. Consideration of these forces involves another concept of history. An allegiance to this concept makes the writer an interpreter of the past. In this role, the historian identifies and evaluates the forces responsible for the condition of his subject. The essential postulate of the concept is that man, and therefore events, was a victim of his environment. That is, such determinants as economics, geography, climate, or technology were so great that man could only be a responder to the pressures.

Our mythical writer's investigation of all relative factors will result in the accumulation of a vast amount of data. At this point, he should make a decision about the facts before him. As did Turner in 1893, he must distinguish between pertinent and extraneous materials. The writer's philosophy of history determines his course. According to his view of the past, he will decide on a unifying factor. This decision will give his study direction and provide him with a thesis. Without a unifying factor, the study will consist of interesting facts presented in a hit-and-miss fashion. Intelligent readers, at times, may be able to find meaning in the presented events, but more than likely the author will only succeed in re-creating the confusion that exists in his own mind. On the other hand, if the writer assumes a position on the relative importance of the forces and from this adopts a thesis, he shall have taken an important first step toward the creation of a meaningful history.

The introduction of the characteristic that distinguishes from all others the cultural approach to history is the final step in this evolution of historical concept. In addition to the previously discussed external forces, cultural historians take into consideration the human factor. While proponents of external factors view man as a victim of condition, cultural historians contend that man exercised some freedom of will. Man was not caught in a web of circumstance that stifled desire and made him an inert being capable only of responding to stimuli within prescribed limits. Man, in a large measure, created his own environment. He established values and therefore must be held responsible for the existence of many external forces. In other words, man, at the same time, was both a creator and responder. If the purpose of the historian is to discover all that is significant in the story of intercollegiate football for the American experience, he must not neglect the study of external forces or human factors—man as an individual or as a collective identity. Again, due to the vast amount of existing fact, the cultural historian needs to discover a unifying element. For assistance, many writers have relied upon the works of behavioral scientists.

Sports were and are such an important part of the American experience that their past neglect as suitable subject matter cannot continue. Histories written from a cultural point of view offer authors an excellent opportunity to serve our profession and the field of general knowledge. Sports are so unlimited in opportunity for analysis that it is not unrealistic to envision a day when scholars will eagerly search works on the subject for information essential to an understanding of the past. Sports histories from a cultural point of view will be written; the only question left for us to consider is whether or not physical educators should assume the task.

Historical Research and the Formative Years of the Modern Olympic Movement[1]

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The modern Olympic Games are among the fastest-growing and most important social phenonena of our time. The critical years in their evolution, the period 1883-1896, has been little studied.

France had been humiliated and nearly ruined by the Franco-Prussian War of 1870-1871. The next quarter-century of peace gave the French Third Republic and most of Europe an opportunity to recover and grow enormously in material wealth. The industrial revolution, with its new leisure; the supreme optimism of the new science, anticipating unlimited progress; a new militarism and a newer imperialism, emphasizing physical vigor; and a revival of humanism and humanitarianism in the guise of vast social reform precipitated a resurgence of physical education and athletics. The Olympic Games were a unique manifestation of this unrest and social transformation.

The most important man in the re-creation of the Olympic Games, Pierre de Coubertin, viewed himself as an educator whose life purpose was to accelerate and elevate physical education and athletics, first in his native France and eventually throughout the world. His lifelong devotion to the Hellenic trinity of body, mind, and spirit, coupled with a compelling faith in the character-building qualities of English sports education in Dr. Thomas Arnold's Rugby School, formed the rationale for his dream of universal amateur athletics. The guiding principle of the Olympic movement, called Olympism, was viewed by its creator as a pervasive religion, a cult of beauty and an instrument for world peace.

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[1] Bibliography may be obtained from author upon request.

Coubertin wrote twenty-six books and thousands of pages of periodical articles, pamphlets, monographs, and speeches between 1886 and 1936. Essentially, his philosophy and that of the Olympic movement were synonymous and combined the wholeness of the Greek spirit of antiquity with the extreme nineteenth century moralism of Thomas Arnold. Coubertin's energies culminated in the successful renaissance of an idea long dormant: the first Olympiad of the modern era and the Athens Games of 1896.

The years 1883 to 1896, the period of Olympic germination, represent a segment of history encompassing the greatest material gain and social progress in modern Western civilization. No other era of the nineteenth century could have produced the Olympic Games. The peculiar forces at work in this period—educational reform, mechanization and new wealth, a revival of liberal democracy, systems of physical culture, and social Darwinism—all contributed to Coubertin's efforts. The singular dedication of the idealistic Frenchman and his associates resulted in the international Olympic movement.

Nothing so vast as the international Olympic movement can be absolutely bad or absolutely good. No aspect of the Olympic Games, favorable or unfavorable, escapes the press, radio, and television. Much of it is accurate and objective. However, the essence of news is strife and conflict. Facts and historical origins are often lost. The modern Olympic Games cannot be fully understood unless a description of the period of their creation is accurately and (as much as historically possible) fully re-created.

International competitive sport in the second half of the twentieth century has clearly become an issue of such prominence that 98 nations were represented at the 1964 Tokyo Olympic Games. There are more member nations of the Olympic organization than any other international body excepting the United Nations. According to Carl Diem, "Today, religion apart, world sport represents the most comprehensive organization in social spheres."

Prior to 1890 there was little international sport of any consequence. Much of the program of international competition that exists today has developed as a result of a sweeping revival of interest in sports and physical education on the European continent.

Today, on the international scene, there are those who would have the Games abolished as unfruitful and ultra-nationalistic. There are others who see only great value in the Games and who bristle with resentment when any of their always "pure and noble" remarks defending Olympic action are questioned. The advocates of both sides can do only irreparable damage if facts are not uncovered, motives and actions scrutinized, conclusions reached, recommendations made, and lastly, action taken. Only imprudent action will result without an accurate understanding of the formative years of the Olympic movement. History can, to a degree, reinstate the past and render it intelligible. It is capable of rigorously separating fact from fiction.

An almost intolerable chauvinism exists among nations regarding participation in and "winning" the Olympic Games. Despite this exaggerated nationalism, the Games have grown enormously in size and importance. Controversial incidents, abuses of the Olympic philosophical code, and perpetual criticisms of the Games have existed from their inception. On the other hand, thoughtful men from all walks of life have continued vigorously to defend the Games and to find ample justification for their existence and continuance. Too few of these remarks and actions are the outcome of conclusions reached after careful historical study. Only through this medium can the two factions begin to come together. In truth, as Jacques Barzun says, "the study of history tends to make men tolerant."

Values and Techniques of Biographical Research in Recreation[1]

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Modern biography is a faithful and unprejudiced study of the life of a person. Mullett points out that the biographer should "gather materials diligently but always selectively, and write with judgement and understanding. He should choose an important subject, avoid preconceived ideas, and seek to penetrate the man behind the mask. He should not mistake chance for design, bend facts to theory, or seek popular applause. Simplicty not embellishment should mark the style, and the writer should seek a happy mixture of 'life' and 'times.' "

First, then, biography is a branch of literature, that is to say, an art. Those biographies that succeed are the works that people read and continue to read and, as Mullett points out, are those that are enjoyable, instructive, possess the interest of fiction, the accuracy of history, and the insight of poetry. Second, in the realm of biography there is that type of work that is not as much a creation as it is a chronicle or a scientific analysis of data by a scholar who discovers primary source materials. Although this style does not approach the literary style of biography as an art, it nevertheless is a recognized approach and is the core of this discussion regarding biography as a research tool in recreation.

Finally, Merrill points out that biography "is a compound made up chiefly of historical and literary elements, and as such is directly related to history. Biography, however, has evolved definite principles of its own. It is governed by established techniques. It combines the procedures of both science and art. It is an entity in itself."

There is not the space nor is it the purpose of this paper to trace the development of biography from Boswell's *Life of Samuel Johnson* to Lytton Strachey's exposing what he considered to be serious omissions of relevant facts from late nineteenth century biographies. The two primary questions under consideration are (1) What are some of the values of the biographical method as an approach in recreation research? and (2) What are some of the more significant factors to be considered in the use of certain techniques of recreation research by the biographer?

Before further consideration is given to the values of biography in research on the creative use of leisure, something should be said about the general status of recreation research. Traditional recreation survey analysis and appraisal methods have sufficed until now but no longer provide adequate information. Empirical analysis is not sufficient to meet the tremendous problems that have arisen with the rapid development of leisure activities in our population explosion. New methods of quantitative research are already evident. The ORRRC reports are a prime example; the writings of Marion Clawson regarding the economic concepts of outdoor recreation are significant; quantitative analysis is being applied by recreators working in teams with the geographer, the landscape architect, the water-resource engineer, the urban planner, and other specialists to discover and test new recreation research techniques. These approaches consist of population and area analysis, comparison of the leisure needs of homogenous groups, the use of sampling analysis, and other techniques exploring approaches to estimating recreation demand, cost-benefit ratios, analysis of leadership effectiveness, and other factors that have magnified and revolutionized the problems related to parks and recreation—private, commerical, or public.

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[1] Bibliography may be obtained from author upon request.

Like quantitative research, historical and philosophical research relating to leisure activities of people has been, as yet, limited. There is no comprehensive, scholarly history of the recreation and park movement. Nor is there a history which relates the social, cultural, and economic impact that leisure has had on our society. Rainwater's *The Play Movement in the United States* was a limited study and has been helpful. But certain strictly chronicle-type accounts of the early play movement in this country have been repeated over and over. There is a great need for a series of scholarly studies relating to the history, philosophy, and development of the play movement and the impact of leisure on modern society.

Some Values of Biography in Recreation Research

The values of biography as a research method parallel those of the traditional historical method. There are, however, distinct differences between what biography contributes and what might be gained through general historical analysis. The following appear to me to be distinctive values of the biographical approach in recreation research:

1. Biographical studies of individuals that have made significant contributions to the development of the field of parks and recreation provide the most complete data necessary to understanding the complexity of the play movement[2] and the analysis of problems related to leisure in modern society.

The play movement, in all its aspects, private and public, grew through the development of parks, municipal recreation departments, public school systems, voluntary agencies, and private and commercial operations. This complexity is very evident today and is a major problem facing the movement. Biographical studies, in analyzing the activities of individuals within various community groups, bring out relations not usually revealed in general historical analysis. Biographical data, penetrating deeper into specific relationships, provide the student of the play movement with an intimate view of the movement not otherwise available because of the many-faceted origins of the movement.

2. Biography lends insight to the forces that shaped the play movement. The public park and recreation profession, as well as other developments of the play movement, has evolved from impelling forces that appear evident but are difficult to conceptualize. What were and what are these forces? For example, what has been the im-

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[2] The play movement here relates to the social movement, which includes all those activities developed by people to satisfy their interests and specific needs during their leisure time. It is analogous to the public school movement, the labor movement, the prohibition movement, and other social movements of the nineteenth century.

pact of the economic forces—the labor movement, including the elimination of child labor; increase in productive capacity and now automation; unprecedented prosperity; and growth of recreation as a commodity? One could ask the same question about the effects of the decrease in philanthropic giving and the increase in paternalistic services by government at all levels, the population explosion, the changes in family life, and the effects of mass communication.

Through biography, some of the personal as well as impersonal forces, so difficult to identify in the play movement, may be identified by example and related. Such knowledge and understanding should lead to more effective professional contributions by the recreator. For example, Halsey's study, *The Development of Recreation in Metropolitan Chicago*, includes an excellent historical analysis of the early public park and recreation developments in that city. In contrast, a biography of V. K. Brown, a pioneer park and recreation leader of Chicago points out very clearly the political, social, financial, and cultural forces that caused, in the main, the establishment of parallel Chicago public park and recreation systems by the city, the park district, and the public school system. It also discloses forces that must be dealt with if recommendations by Halsey are to be carried out. These two studies incidently, are typical examples of how historical analysis and biography can complement each other and how the contributions of each method of approach can be readily ascertained.

3. Biography also has a unique contribution to make in disclosing the origin and implementation of new ideas and innovations in the play movement. A profession lives and survives on the creative efforts of its leaders; ideas, at all levels of operation, usually originate with individuals, not groups of persons. Biography discloses the origin of these ideas and what factors conditioned their origin and implementation. How did Joseph Lee, for example, develop an understanding of the leisure-time needs of people, their value systems regarding leisure, and then originate ways of meeting these needs? How were his new ideas accepted, which ones failed and why, what were some of the blind alleys he encountered, and what obstacles did he have to overcome to initiate new activities and programs? Many new ideas and principles initiated by Lee (and other recreation leaders of his time) are clearly illustrated in the study of his life. He operated an experimental playground in Boston from 1900 to 1907. During this period he originated new types of apparatus (e.g., the playground slide); the overall design of what is now known as the playground, an original American idea; and the concept of neighborhood, district, and regional services in parks and recreation areas, including standards for physical facilities. Similar biographical studies would disclose the climate of originality demonstrated by J. Frank Foster, George A. Parker, Jane Addams, Howard Braucher, and other pioneers of the play movement. The examples brought out in biographies of these leaders could be a help and an inspiration to the present-day leader.

4. Finally, in regard to values of biography, one can say it contributes to some extent to developing prediction and control. Arthur Schlesinger, Jr., in his article "The Historian as Artist," points out the serious limitations of the use of historical data for prediction. Nevertheless, historical and biographical data substantiate the fact that prediction and control can be effectively based upon past experience if appropriate account is taken of changing social conditions. Historical and biographical material interpreting the play movement are invaluable in pointing out the effect of the conditioning factors of leisure through the years. These data also aid in providing information necessary to the definition of problems needing research and in providing the facts and knowledge needed to achieve more effective prediction and planning regarding the present and future leisure-time interests, habits, and attitudes of people.

Techniques of Biographical Research in Recreation

The fundamental research techniques used in biography parallel those of general historical analysis. Rather than review these fundamental techniques and rules of searching evidence, I will briefly review particular techniques unique or most important to biography.

Martha Smith, as late as 1941, pointed out emphatically that (1) critics agreed there was a need to study the art and science of biography; (2) there was no guide to biographical writing that was a complete, adequate statement of method; (3) there was no book published that was devoted primarily to the teaching of biography; and (4) the principles involved in the technical development of biography are left largely to inference. In 1950, Bowen published a useful work in *The Writing of Biography,* and in 1957 Garraty and Merrill published independent works directly related to the biographical method. Clifford and Mullett have, since 1960, published works illustrating by example a variety of research techniques. These publications since 1950 have, for the first time, outlined the techniques that have been most useful to biographers.

What are the particular sources, then, most useful to the biographer as distinct from the historian? Garraty points out that the following sources are prime targets of the biographer: (1) autobiographies, (2) journals and diaries, (3) letters, (4) published works, creative and otherwise, and (5) other personal remains—scrapbooks, collections, photographs, and even clothing and personal effects.

I have chosen to discuss six areas of prime consideration involving *procedures* and *techniques* relating to the handling and analysis of primary source materials by the biographer:

1. Of major importance is the selection of the individual to be studied. This parallels the definition of the problem or the statement of a hypothesis in attacking any research problem. There must be clear reasons for selecting the individual; careful reading and analysis of related literature should precede the final selection. Reading bibliographies will help not only in selection of a subject but provide broad understandings of the biographical method.

2. Serious attention should be given to the style of writing to be followed. Two major literary forms may be followed: (a) the critical (subjective) form where the author remains always present, virtually standing by the reader telling him what to think, and (b) the narrative (objective) form in which the author tells the story involved and lets the reader make his own judgements.

The importance of skill and originality in writing cannot be overemphasized in biographical work. As long as the biographer stays with fact and the truth, he is free. The biographer should artistically develop the vividness and dramatic effect that will achieve the ultimate—a style that impels readers to read the completed biography thoroughly and with pleasure.

3. Particular attention should be given to the organization and treatment of data. There should be applied an effective system of cross tabulation organized to allow for progressive cross examination and internal criticism. Two ways this may be accomplished are: (a) graphic and tablular forms, allowing for rapid summation and accurate examination of the related elements, and (b) coding to facilitate general organization of the data as well as to make effective use of machine tabulation. Recent advances in quality control of data are explained by Raoul Naroll in his work, *Data Quality Control: A New Research Technique.* These techniques have potential for validation as well as the treatment of biographical data.

4. The biographer's mission is more than transcription of evidence. As Schlesinger points out, the term evidence implies criteria of relevance. The historian's act is, first of all, an act of selection; selection is a form of interpretation. And interpretation

implies a scale of priorities, an understanding or a sense that some things matter more than others. Experience and skill in the technique of evaluation and selection of relevant data is of primary importance to the biographer. An interesting discussion of selection as well as transmission of evidence is given by Stephen Spender in his recent *Saturday Review* article entitled "How Much Should a Biographer Tell?"

5. Biographers are developing new research techniques for dealing with the problem of personality.

The use of content analysis is being utilized to infer motivations, emotions, and attitudes in speakers and writers. Garraty, in conjunction with several psychologists, has studied the personality of historical figures through content analysis of their personal documents. This technique is one means of assessing personality and can serve as a scientific check on intuitive, subjective judgments.

Murdock also suggests a way to bring order to masses of descriptive data by classing together phenomena possessing common characteristics that suggest similar explanations and by differentiating such categories from others on the basis of unlike characteristics.

6. Particular attention should be given to the technique of interview, a major approach utilized by the biographer. Visitation or residence in the area of origin, practice in the skills involved in the interview process, effective means of coding and recording, and the full utilization of modern tape recorders and other mechanical aids should be considered.

In summary, biography is an integral part of a well-balanced research program. It provides unique data not ordinarily available through other methods of research, particularly in service-oriented professions such as social work, city planning, recreation, and some areas of education. Mullett warns, however, that we should not claim too much; compared to other methods of research, biography has limited application. He also points out that we are obligated to pay attention to lesser individuals who made the genius of great leaders possible—even to the point of studying persons who misfired and by so doing pointed the right way. "If we consider history the essence of innumerable biographies, we must make sure that we include the hewers of wood and drawers of water as well as the captains and kings."

The recent developments in the field of parks and recreation and in areas of concern related to increased leisure and the use of leisure time have been dynamic and far-reaching. Studies in economics, sociology, and in several of the behavioral sciences relay the urgent need for research data that will be helpful for guidance and direction in a society that will be more leisure-centered than work-centered. This involves two major approaches in recreation research: (1) developing quantitative research techniques more accurately to assess status and to discover facts about the interests, habits, and motivational patterns of people; and (2) conducting sound research in the historical and philosophical areas of knowledge to gain insights that will, once we have adequate facts, help us determine goals and objectives consistent with needs in our rapidly changing society. It is unfortunate that recreation research needs have been relatively overlooked so long; yet we cannot deny that the need for providing operational and managerial leaders in parks and recreation was the first order of business. We now need to face the question of developing individuals who can, as they do in other disciplines, work cooperatively in the three areas of concern: (1) professional preparation for managerial and operational leadership, (2) preparation for consultant and service leadership (bringing theory and effective practice directly to people), and (3) providing first-rate research workers who have interest and abilities in the various areas of research needed in the field.

Finally, this has not been an attempt to include all the values and various techniques related to biography. It has been generally recognized that as yet, no publication has accomplished this feat. I am convinced that historical and biographical research can make a contribution to the knowledge in the field of parks and recreation in order that (1) a body of scientific information about the growth and development of the play movement be available for study and interpretation by professional leaders and teachers, and (2) this type of scientific information somehow become a part of the education of not only professional students but all citizens who in the future will, more than ever before, need much broader and more effective education for leisure.

Sports Historians

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In the past three years the need and suggested curricula for educating sport historians have been identified by S. C. Staley and A. C. Moore at annual meetings of the NCPEAM. One of the two history of sport sections this year is being devoted to the general theme of how to implement a program for educating sport historians. It is appropriate therefore to consider some of the factors involved in selecting and programing students interested in history in general and in sports history in particular.

Assumptions

1. Study and research potentials in sport and physical education are great, and at present such potentials are, for the most part, limited either purposely or inadvertently to only one approach, namely the physiological approach.

2. Implicit in a sports history program is the assumption that a body of knowledge exists at least for each of the courses suggested by Staley in 1962 at San Francisco. (At present, such knowledge either is not available or is inadequately studied, synthesized, and published. Both Franklin Parker in January, 1964, at Dallas and Earle Ziegler in December, 1964, at the Western Conference Physical Education Meetings, have appropriately commented on our present inadequacies.

3. After one has become a specialist in such a program, a place could be made for him equally as well in the department of history as in the department of physical education. (This assumption of course implies acknowledgement and academic respect.) An interesting side issue to this tenet is the question, "How many departments are in a position to or would hire such a specialist?" This question does not necessarily imply that a utilitarian tag must be applied to future sports history programs.

4. It is axiomatic that the selection of students is only operative when there is a going program known and recognized by the potential students.

Some Characteristics of Implementing a Sports History Program

There are perhaps three periods not necessarily distinct which can be identified or projected before a program in sports history is accepted by our colleagues and by historians in general. They are, for want of more appropriate terminology: (1) the awakening period, (2) the fledgling period, and (3) the approbatory period. Presently, our profession appears to have some of the characteristics of the fledgling and the awakening periods only.

1. *Characteristics of the awakening period:*

a. This is the period in which the physical education faculty must prepare the way for our graduate students by convincing faculty in other departments, particularly history, to allow our students to take graduate seminars along with other history majors.

b. It is further characterized by an emphasis on the part of professors in physical education to sell the gifted scholar in physical education to graduate faculty in other disciplines so that they, who are already overloaded in their own department, will consent to serve on examining and research committees.

c. Another characteristic of this period can be found in the type of historical research produced. For the most part, it will be narrative history. Only a few good studies are available. Very few involve what both Teggart and Cohen have called causation. Little or no attention has been given to the identification and the study of "theories of why." (Two such theories are Turner's "Frontier Theory," supported in part by Paxon and others, and Schiller's "Creative Imagination.")

d. This is the period in which sports history is not universally recognized or accepted as an important research area in departments of physical education, much less in departments of history.

2. *Characteristics of the fledgling period:*

a. In this period, there is a developing body of knowledge in sports history supplementing recognized historical texts covering the major periods presently studied in institutions of higher learning. There must be systematic attempts to supplement standard texts in recognized historical eras. We must continue the work already begun by such men as Butler, Forbes, Freeman, Gardiner, Robinson, and Woody, none of whom are physical educators. I know of no program designed to study the content of some 450 volumes of translations in the Loeb Classical Series for the impact that sports had on early ideas and life of the Mediterranean civilizations. What about the medieval period? There are no texts in sports similar to or supplementing Bloch's *Feudal Society*, Dopsch's *The Economic and Social Foundations of European Civilizations*, Pirenee's *Medieval Cities*, or Ferguson's *The Renaissance in Historical Thought*. Early English sport literature abounds, but how many courses exist in departments of physical education whose aim is to study such literature? Who is qualified to teach a course such as sports in the Orient? What are the sources for such a course? Herbert Giles' muses are a start but are certainly not enough to support such a course.

b. Further, in this period there is a slowly developing but genuine desire on the part of administrators of large physical education departments to initiate and support a program in sports history. This means, among other things, hiring a minimal complement of specialists to support such a program. (Clearly our present faculty are not qualified.)

c. The slow acceptance of a graduate concentration in sports history by the central administration is noted. (In some universities the need will have to be documented by "numbers of students" before such a program can be fully implemented.)

3. *Characteristics of the period of approbation*:

a. This period can be identified by sufficient (recognized) source materials in the form of texts, monographs, etc., to support recommended undergraduate and particularly graduate programs.

b. Another indication of this period is that there is a minimum of four sports historians on each staff who are qualified to teach and sponsor research in a program similar to the one suggested by Staley at San Francisco.

c. A further sign of this period is full recognition. The sports history specialist could be hired just as readily by the department of history as by the department of physical education. The only consideration would be the administrative structure of the institution.

d. Another feature of this period is the quality and quantity of research. The research is of sufficient quality and quantity as to be read as a commonplace occurrence in sections of the annual convention of the American Historical Association as well as from a permanent History of Sport Section at the convention of the American Association for Health, Physical Education, and Recreation.

e. Lastly, a large number of students will select a graduate school because of the strength of this specialty—strength of the faculty, breadth and depth of the curriculum, and the availability of supporting library materials.

Factors in Selecting Students and Programs

Do we really select students? Or is it that we counsel those who have already shown some interest in history. We certainly give students programs at the graduate level, but, at present, we do not "select" in the traditional sense of the word. In fact, until such a time as we have a recognized curriculum in sports history, an appropriately educated faculty, and a large number of students desiring to major in such an area, we will not select the student. The student will select us. How then can we interest students? We will have to continue to make the initial contact and then influence the gifted student into this field. Once such a student is identified, then programing can follow. Programing at the undergraduate level is normally for breadth and at the graduate level for depth. This depth should be focused on at least two of the areas of specialization recommended by Staley.

Students are not going to be interested if there is a mediocre offering supported by an equally mediocre staff member who has little or no knowledge of or interest in sports history. Further, it will be most difficult to interest students in sports history if the trend in hiring top faculty members continues to focus unduly on exercise physiology at the expense of other equally important areas. Some possible reasons for this limited approach to faculty procurement are: (1) The need for exercise physiologists is currently recognized by most department heads. (2) Most departments want to have a good image. Since a great bulk of the articles published in the *Research Quarterly* and other journals can be classified as physiological in nature and since some department heads feel that the best way to get national recognition is to attract faculty who can publish in this area, it follows that they must hire two or three people who can "put us on the map." (3) The last reason to be mentioned here is the establishment and supervision of physiological research laboratories and the conduct of the ensuing research. I believe the first and third reason cited to be two of the valid reasons for our current emphasis on hiring applied research physiologists. I believe such research when honestly approached is basic to our profession and needs additional and continuing administrative support. But I must protest against the attitude and hence the hiring practices that this research is the *only* research that is worthwhile—the only research that will help develop our subject matter—the only research that will help strengthen us as a profession—the only research that will create a favorable image among our academic colleagues. Other equally important research areas which should be recognized and developed are the areas of historical research, of philosophical research, and of sociological research. Such areas of research in relation to physical education can not only give breadth to our research potential but can help accomplish some of the points mentioned above. The department head would be wise indeed to round out his research faculty by creating and filling chairs in historical, philosophical, and sociological research. If this were done the potentials would be unlimited. Among other things, it would help establish a portion of the subject matter already mentioned. It would create new research positions in our departments and consequently aid our attempts to encourage students to major in sports history.

One idea which might aid in early identification, a step in selection and programing, is to provide at least two avenues to the bachelor degree in physical education. This idea has been tossed about during the past 4 or 5 years by several of us and developed along specific lines by one of our panel members, Leonard Larson, in a paper read before the American College of Sports Medicine in Los Angeles entitled, "Professional Preparation for the Activity Sciences." One avenue would be the traditional one leading to teacher certification. The other avenue would be designed for those who simply want to study the subject matter of the field, one segment of which could be the history of sport. The hue and cry when such a suggestion is seriously considered will be: What will this graduate do if he is not prepared to teach? My answer is, What do the large number of majors in history, in mathematics, in sociology, in psychology, etc., do upon graduation when they are not prepared to teach? If we have valid subject matter, the study of such content is sufficient justification in and of itself. Our traditional attitude in physical education will be a tremendous barrier to overcome as we have always had such a utilitarian tag attached to our major programs.

One problem facing some of us who may want to initiate such a program: The central administration of some universities will not necessarily attempt to develop a program simply because the need has been identified to their satisfaction. Quite the contrary. Such administrative philosophy says that the university must decide on the important areas which they wish, can, and need to develop. An illustration of this point of view can be found in a comment made by a colleague, a professor of American history, when he responded to a question of mine regarding a history of science major. He said, "We can't afford to develop such a program. We wish we could because there is clearly a need. When I have a Ph.D. candidate who wants to major in the history of science, I recommend that he go to one of three graduate schools that have committed themselves to this area and who are nationally recognized, namely, the University of Wisconsin, the University of Pennsylvania, and Yale University."

Conclusion

I should like to conclude these ideas centering on the general theme of selecting students and programs for a history of sport major by stating that in order to attract quality students to a serious study of the history of sports, the subject matter must be developed, synthesized, and published in texts that will be readily available; a sufficient number of sports history specialists must be educated and hired; administrators must have the vision to support the program with their time, energy, and dollars; and finally, a recognized curriculum must be developed in breadth and depth. Succinctly then, the program must be:

1. Defined
2. Delineated
3. Developed
4. Approved by college and central administrations
5. Communicated
6. Supported.

Initiating a Program for Training Sports Historians

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University of Illinois

Judging from remarks that have already been made at this meeting, it would seem there is sufficient evidence of the need for preparing sports historians at both the undergraduate and graduate levels. The precedent for training historians has long since been set by music, art, agriculture, and other disciplines. If in all truth one can understand the present and to some extent predict the future by reviewing past incidents, there certainly should be some benefit to be had by a scholarly perusal of sports history.

Ancient literature acquaints us with the part athletics played in Greek culture. Art and music extol the virtues of sports figures in past civilizations. Today athletics takes up about one fifth of the space in an average newspaper and account for the use of a considerable portion of all radio and television time. An examination of financial reports indicate that sports spending runs into billions of dollars each year.

While all of this is going on, no one is occupied full time in the scientific analysis of the total sports process. Among other things, such study would involve the effect of sport on our culture and on our economy, as well as the part sports play in the elimination of juvenile delinquency. No one is attempting accurately to assess the true status of athletics in education at all levels, or to formulate scientifically based predictions on the future of professional athletics in this country. In spite of the impact such research might have on the economy or the health of our people, any effort expended in this direction comes about only as an incidental operation. Few people seem to be interested in meeting this matter head on in a planned program.

If we are to have trained sports historians it is high time that we started to think seriously about programs for their education. For the past several years this section meeting at the NCPEAM Conference has gradually led up to this point.

As an administrator I view the thrust behind this interest from the standpoint of mechanics as well as from my interest in sports history. In order to run a curriculum one should have qualified and interested students, a qualified and proficient faculty, some pattern or plan for a curriculum, and, last but not least, a substantial library. The availability of these elements and the manner in which they are put together will determine to a large degree the success of your program.

Let us start with the student. It has often been said that the field of physical education depends strongly upon allied disciplines for sustenance in the construction of programs of an academic type. Among the people here today are those who feel that a sports historian should be first an historian and secondly a physical educator. My philosophy clashes with this concept because I believe we first need someone dedicated to sports. My theory is also based on the assumption that if we find the capable student in our own ranks he can learn the things he needs to know about history. My belief in the primacy of physical education in sports history is important. The person whose principal interest is in sport will specialize in all areas of history that relate to sport, which might not be true if this person's first interest were histroy. I think this individual should be identified early in his undergraduate education and provided with a special curriculum built on the assumption that he will continue on through advanced graduate study in the field of sports history.

Aside from his general, liberal studies, which should constitute 50 percent of his required course work, I believe he should have at least the equivalent of a major in history. His work in physical education should include the usual undergraduate theory courses required for a major and enough activity work to provide him with an understanding of a reasonable range of sports skills and strategies.

This student should not follow the traditional practitioner program, and for that reason should not carry the usual courses in educational theory and practice.

It is also my feeling that at least two courses should be taken in anthropology and sociology. A suitable blending of these latter two disciplines with history would provide this person with a background which would help him interpret sports in the light of present-day culture.

We are assuming that this student has been carefully screened academically. He should have a high scholastic potential, which should almost guarantee that during his junior and senior years he could cope with advanced seminars and participate in preliminary historical research efforts.

Many would disagree with this approach. They feel that specialization should be left to the master's and doctoral programs. I find myself inclined to favor specialization in particular fields such as this one at the undergraduate level. In the past our people have lagged, and productive scholarly work has not started in the lives of some until they were past 30 years of age because they first prepared themselves as practitioners and entered the teaching field. Later these people came back for graduate study only to discover their practitioner's training did not prepare them for scholarly production. Frequently their graduate efforts were again delayed by the necessity to go back and take tool courses in allied disciplines before they were qualified to take advanced course work in doctoral programs.

The specific content of sports history courses offered in physical education will require a great deal of thought. At the present time most departments offer either a course in the history of sports or the history of physical education. One would think that a department should have several history courses of its own before offering a major in sports history. Any program of this type must be built up by degrees, and the prime mover in any such effort would be the department head. He can gauge his resources and follow through on different phases of such a projected curriculum at the most opportune times. He has a better picture of the total department situation than anyone else and can pursue his plans with the greatest likelihood of success.

Before taking on such an assignment the administrator would want to be sure that he had or might expect to have the elements mentioned at the beginning of this paper in order to make the program work. He should be sure of his faculty, his library should be adequate, and it would be wonderful if he had the blessing and support of the history department at his university.

Who among us can say that the important segment of our culture represented by sports would not be different today if qualified sports historians were helping to chart their course? Past incidents arrange themselves in patterns which help to predict future events. This is common practice in finance, weather forecasting, and the study of genetics. Perhaps we have been overlooking the development of one of our field's most important segments.

Television Teaching

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Present-day methods of mass media in communication should include educational television. Even though this means of communication is not new, its use is beginning to provide a new approach to general education and particularly to teacher education. It makes possible in-service education as well as residence training to bring new ideas to those who are either teaching at present or those whose preparation is in progress. It goes beyond the traditional book learning both in new ideas and in an opportunity to visually perceive that which the teacher wishes to present to the class. Suffice it to say that one teacher may reach vast numbers of interested professional people in the educational field.

The course herein described, "Current Concepts in Physical Education for the Classroom," which was carried over television station KTCA, channel 2 in St. Paul, Minnesota, during the winter quarter of 1963, was an attempt to bring to a large audience, every Monday from 7 to 8 P.M., some of the newer ideas of teaching physical education. The class of 137 students was made up of college instructors, graduate students, teachers prepared as majors and as minors in physical education, supervisors of city systems in physical education, elementary school teachers, and rural teachers.

Such a heterogeneous grouping taxes the ingenuity of any instructor to present information which will be of value to all. Some information was of more value to some students than to others. Be that as it may, a majority of the class expressed satisfaction with the material. For some it opened new avenues of approach to their problems.

Problems of Television Teaching

Numerous problems presented themselves in the preparation and teaching of the course. Most of the following are presented in chronological order:

1. Broad preparation and experience in teaching physical education is absolutely necessary for teaching such a course.
2. A complete syllabus of the course prior to the teaching. (This is the most difficult task confronting the teacher.)
3. A person should have "mike personality." He should be able to eye the red lights and talk to an imaginative class calmly yet forcibly.
4. The assistance of well-known personalities (teachers) capitalize on specific phases of the program.
5. Each televised lesson must be timed in order to cover the subject listed in the syllabus on a given date.
6. Plans for teaching aids must be made, and the aids must be available for the lesson in which they are used.
7. Detailed lesson plans must be presented to the television station several days prior to their use.
8. The teacher will not be able to see his class for more than two or three discussions in previously arranged meetings.
9. The teacher must evaluate work primarily by final examination and term projects.

Satisfying Outcomes

Even though many problems face the television instructor, certain satisfactions accrue from such an experience. Some of them are:

1. That you are helping many teachers understand what they are to accomplish.
2. That you are helping to make the teacher's task more meaningful and effective.
3. That teachers will be encouraged to get additional training in order to do their job better.
4. That they have received help that will allow them to be a better teacher.
5. That you will enjoy discussing their problems with them at the previously arranged meetings of the class.
6. You may even have a layman contact you about the work given—selling the program to the public. Such was the author's experience at the close of the course. A layman called the author after the final telecast at the studio and said, "I want to congratulate you and your assistant on the splendid series of telecasts you have given. Even though I'm not in education I want you to know how interesting it was." Upon questioning the caller as to who he was and what his business was he said, "Oh, I'm just an electronics salesman, but it was much appreciated."

Much can be done to help teachers in the field and also to inform the general public of the importance of our phase of education.

Programed Learning as a Technique for Instructional Analysis[1]

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The emphasis and effort directed toward instructional research and development during the past several years can be accounted for largely by the work of B. F. Skinner during the 1950's. In an article in 1954, "The Science of Learning and the Art of Teaching," Dr. Skinner set forth the possibility of systematically applying principles of learning observed in the laboratory to instructional situations. Following this article a great deal of research was done, and a report of this effort was made in an article by Dr. Skinner entitled "Teaching Machines" in 1958. At no time in the history of education and training has there been so much research activity. For the first time in the history of education, the development of a true technology of instruction based upon the science of learning appears possible.

Generally, programed learning is a term used to describe an instructional situation in which materials presented in a controlled sequence require responses by the learner to meet specified criteria of the program objectives. Terms often used synonymously are "programed instruction," "automated instruction," "automatic tutoring," or even "teaching machines."

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[1] Bibliography may be obtained from author upon request.

Because of the control over responses and sequence, the materials are referred to as a "program." The responses emitted by the learner may be completing a statement with a word or words, writing an answer to a question, making a selection in a multiple-choice situation, imitating auditory or visual stimuli with oral or motor responses, stating agreement or disagreement, or solving a problem. The program may be presented through a mechanical device or in a book; the former is a teaching machine, the latter a programed textbook. The materials are programed so that a tutorial situation is approximated without the immediate presence of a human tutor.

Programed learning is viewed as a technological development in education and as training to meet the increasing complexitites in nearly all areas of human learning endeavors. In education these complexities include the numbers to be educated, the rapidly expanding body of knowledge, and the special cases within the population, e.g., the intellectually gifted, the retarded, the delinquent, and the worldwide problem of illiteracy. Techniques of programed learning are applicable in business and industry to problems in management development and to training-retraining associated with automation.

Skinner pointed out that education as a technology of learning did not approximate in its practice those principles observed and confirmed in learning research. He stated two principles of the learning process which needed to be considered by those involved in teaching and training. The first, "contingencies of reinforcement," he described as taking seriously Thorndike's "law of effect" by making certain that desired responses appear in the student's behavior and that these responses are immediately reinforced. The second principle, that reinforcement should be arranged or "scheduled" so that the learner continues to make responses, helps insure continued interest in the material. Responses which successfully approximate the criteria of learned behavior should be emitted, and any other responses are considered a faulty arrangement of the stimuli presented to the learners.

On the basis of these principles Skinner then stated that anyone wishing to control the learning situation so that the desired change in behavior would occur must consider the following questions:

1. What responses are desired to meet the criteria of learning?
2. What sort of successive approximations in emitted responses will lead to the desired behavior?
3. What reinforcers are available in the particular situation?
4. How can the reinforcements be arranged so that behavior can be maintained in necessary strength?

It was obvious to Skinner that educational practice would have to change radically in order to construct an instructional situation which would meet these requirements. For example, almost no provision was made for each learner to emit responses through successive approximations of the desired behavior and for the desired responses to be frequently and immediately reinforced. He observed that the reinforcements used in education *were* usually indirectly related, at best, to the responses desired for learning and that the contingencies of reinforcement, if considered at all, *are* arranged most haphazardly. The teacher as the primary reinforcing agent certainly was not adequate in most instructional situations. Some sort of device was needed.

This device was the program. Its characteristics can be described as follows: (1) The student is forced to be active in the learning situation. Unlike less controlled situations such as lectures, text reading, movies, or television, he is forced to make responses to stimuli as they are presented to him. (2) He must give the correct response before proceeding. Again this differs from stimulus-only techniques where the next stimulus can be presented whether or not the student is ready to proceed. (3)

By presenting the step-by-step approximation, there is some confidence that the learner is ready for the next step. (4) With hints, suggestions, and promptings the program helps the learner to make the correct response. (5) Immediate reinforcement is given to each response the learner makes. The exposure of the answer is reinforcement, and this immediate feedback is sufficint to hold the behavior in strength, i.e., keep him going.

There are somewhat different approaches to automated instruction from Sinner's linear model described here. The two major ones are the multiple-choice—branching model of Crowder (intrinsic programing) and the model of Pressey—review tests with immediate knowledge of results. While these two models have produced positive results in instructional situations and should be considered in developing instructional materials, they are not appropriate to the tasks of analysis and validation which will be described in this paper.

Regardless of the differences between what has been described as linear programing and intrinsic programing, certain criteria can be established for both which distinguish programing from other techniques and devices of instruction.

1. Stimuli to which he must respond are presented to the learner. Active participation is required of the learner in contrast to the stimulus-only situations of the lecture, textbook, and audio-visual aids.
2. The sequence of the material presented is highly controlled as a result of prior observation of its content within and among steps.
3. A two-way communication is established since immediate feedback is given by the program to the learner's response. The learner is aware of his progress at all times.
4. Reinforcement or reward (usually this immediate feedback) is used to keep the learner responding or interested.
5. The learner responds to the program at his own rate; this then is similar to a tutorial situation.
6. Learning occurs without a human instructor in the immediate situation.

Another way of contrasting the techniques of automated instruction with the more traditional educational methods is in the emphasis on what pays off for the learner rather than for the instructor. The lecturer, textbook writer, and the director of various audio-visual aids make use of those techniques which work for each in the medium with which each is concerned. In building a program the emphasis is on the learner's behavior at each step from the beginning to the end.

The research results leave no doubt that students do learn from the programs produced during the last few years. Students at various educational levels from preschool through graduate school have learned by using programs a wide variety of skills, e.g., motor, verbal, and perceptual. No less important is the fact that educators who have worked to develop those programs have learned much about the instructional process. It is this aspect of programing, the forced concern for what and how each student learns, that will be considered here.

It may initially sound very trite to say that the probability of successful teaching is greatly increased when you know what it is you want to teach, that knowing your instructional goals is an essential element of any plan of instruction. However, the precise and comprehensive statement of objectives is a step that is often bypassed by busy and perhaps experienced instructors as they work out course outlines. Programed instruction is by nature interwoven with the statement of instructional goals. It is both the product of and a very useful tool in the isolation of the instructional task. Considerable work is currently being done by programing researchers in this area, an endeavor quite compatible with their general interest in decreasing the unspecified elements or guesswork in the teaching-learning situation. It is also a sizeable task.

From a programing point of view, carrying out the following tasks is elemental to a thorough analysis of a teaching situation before the selection of the instructional content and sequence.

1. Specification of instructional goals. It is necessary to state quite clearly what the instruction must accomplish in order to be considered successful. Because the ultimate evaluation of successful instruction is based upon student performance, the instructional goals are to be stated as responses the student must make to meet criteria of learned skills and understandings. Student performance, not teacher performance, makes up the statement of instructional goals. Further, the required student performance must be specified. Words and phrases such as "gain of knowledge," "develop critical attitudes," and "appreciate" often are seen in statements of course objectives. These are fine introductory phrases for instructional goals, but usually they are not carried to the operational level required in programing. The essential question is, What must the student do to indicate that he has gained a knowledge, has developed critical attitudes, or does appreciate?

2. Construction of a precise and comprehensive post-test. The post-test describes the situation in which student performance of what has been learned is to be exhibited and observed. Items in a post-test must directly reflect the specified instructional goals. The construction of a post-test makes the statement of instructional goals more operational and becomes the basis for validating both the content and procedure of instruction. For example, if the development of critical attitudes toward certain historical events is stated as an objective, and student performance for meeting this criterion is specified, post-test items are constructed directly from the specified goals. Student performance in these items tests both what has been taught and how it has been taught. The selection of instructional goals, content, and procedure is the responsibility of the instructor; and student performance on post-test items is basically an evaluation of how well these responsibilities have been met in the instructional situation. By accepting these responsibilities little room is left for the clichés of teaching failures: laziness, lack of preparation, lack of motivation, and so forth.

3. Description of pre-instruction assumptions concerning student ability. Before instruction begins, certain assumptions are made concerning skills that the student is believed to have in his repertoire and in what degree these skills are necessary for the instruction to proceed satisfactorily. In our standard procedures of teaching, these assumptions are seldom precisely stated or tested prior to instruction. Further, there is often no objective evidence of how much students have learned through previous instruction, i.e., how much of what the student is expected to learn he knows before instruction begins. Seldom does the post-test, or an alternate form of it, give enough information to assess this. A pre-test is required for the precision and objectivity inherent in the programing approach to instruction. Items of a pre-test are constructed to determine whether the student possesses the knowledge or skill requisite to beginning the unit and also whether he has already mastered what is to be taught.

At this point—having defined goals and the means by which achievement of them is going to be assessed and also having made provision for diagnosing a student's "readiness" for the instructional task at hand—the instructor has established the basis for the programing approach. He will now concentrate on the content and sequencing of the material that will enable the student to perform satisfactorily on the post-test derived from his instructional goals. All of these steps are a part of the analysis of instruction; and of no small importance are the three which have been treated in detail herein. A technology of instruction based upon a knowledge of the human learning process demands that the limits of the instructional task be described precisely and that the validating questions be continually put to the teaching procedure.

While this part of the analysis is basic to the programing process, further steps are required for the development of an instructional technology. Ultimately, the analysis must include specification of the components, format, and sequencing of instruction. The behavior to be learned must be translated into a teaching method. Too often the "how" of instruction is approached haphazardly; an instructional technology demands a systematic approach based upon a science of learning.

Because staff members from the Center for the Study of Programed Learning have worked with various departments in almost all the colleges on campus, we have keenly felt the need for this technology. In the objectives of a variety of courses there are, in fact, identifiable common behavioral components. For example, simple associations in the form of written or oral responses to visual and auditory stimuli can be identified, regardless of whether the specific task at hand is a problem in music appreciation, human anatomy, or statistics.

Once a task has been analyzed into its components, two points basic to building an instructional layout become fairly obvious: the content or subject material that will have to be presented if students are to attain the prescribed goals must be determined; then these instructional components must be sequentially arranged. Consider an example. What may be designated as a "strategy for solving problems" may be a component within the objectives of courses in medical diagnosis, engineering, or inspection skills for supervisors of assembly lines. Regardless of the specific course, a task analysis would indicate that concepts and rules leading toward, or serving as a background for, this general strategy for solving problems would have to be taught. In turn, associations, stimulus discriminations, and response differentiations leading to the concepts and rules would have to be taught. Psychological research has shown us that there are more and less successful methods of teaching associations, discriminations, etc., which we will take into consideration in our plan for instruction. Given this general framework, concepts and rules and their underlying associations, discriminations, and differentiations specific to the tasks in medicine, engineering, or industrial management can be superimposed upon it.

The programing approach demands that instruction go through a validating process, and validity is ultimately tested by learner performance, both during instruction and on the criterion tests following instruction. Does a difference between pre- and post-tests indicate that the students learned, and does student behavior following instruction indicate that the objectives were met? Validation of instruction requires that these questions be answered in the affirmative. Through the control of materials presented to the learner and the control of learner responses, the programing approach makes such validation possible. In fact, the most important contribution of programing to teaching and training is this introduction of a technique for an experimental analysis of behavior in instructional situations.

Instructional programs, whether they be presented by a live teacher or as a programed text, can be constructed from a task analysis. This is a step that comes only after these preliminaries have been observed, however, and it can be no better than the thoroughness of the analysis it follows will allow. The programing approach to teaching very definitely incorporates a "look before you leap" attitude . . . with the additional advice, "look carefully."

The Multimedia Approach to Learning[1]

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University of Wisconsin

The Multimedia Instructional Laboratory (MIL) of the University of Wisconsin was established in February 1961 for the purposes of: (1) improving the quality of large group instruction at the university level through the use of an automated system of audio-visual equipment and (2) providing an instructional laboratory in which the effect of multiple-screen, rear projection techniques on learning could be studied. To date, the primary activities of the Multimedia Laboratory have been:

1. Producing automated lecture presentations for use in regularly scheduled university classes.
2. Conducting research projects related to:
    - a. Variations in material and lecture production.
    - b. Variations in the learning situation.
    - c. Effects of unique or cross-media utilization.
    - d. Analysis of student attitudes toward multi-screen presentations.
    - e. Variations in learning acquisition and retention.

The production activities of the Laboratory to date are summarized in table 1. Each completed presentation represents approximately 120 man-hours of effort by the production team, exclusive of the planning and coordinating time spent by the respective professors of the courses being programed. A breakdown of the preparation for a typical program appears in table 2. Under present physical, budgetary, and personnel limitations, fifteen to eighteen programed and/or automated lectures are being presented each week. Allowing for essential preview time, this figure represents approximately 80-percent maximum capacity under present facility limitations. With the staff currently available in the Laboratory, an average of two new presentations per week could be prepared.

How It Works

On the screen (7½ inches by 14½ inches) the student sees an arresting sequence of images—visually representing the progress of the professor's lecture. He often sees three visuals at once: a large one, framed in the main panel of the tri-part screen, and two smaller ones in the two side panels. These images, the professor's words, the room lighting, and, frequently, recorded music are all carefully coordinated to make an integrated impact on the student through his senses of sight and hearing.

While the student has his attention focused on the front of the screen, a battery of projectors is focused on the back of the screen. Behind this rear-projection screen there are two 2-inch by 2-inch slide projectors, a 3¼-inch by 4-inch slide projector, a 16mm motion picture sound projector, an opaque projector, a playback turntable, a stereo tape recorder and stereo sound system along with an electronic control system. All this is concealed from the student's view.

Professors using the multimedia approach have quite generally expressed the feeling that the demand on their time in preparing programed lectures is more than rewarded by the additional material that can be covered in each class period, thereby providing an even greater dent in today's ever increasing mass of knowledge. These same staff members unanimously agree that through the assistance of the production team members (artist, photographer, teaching assistants, programer) it is possible to assemble a reservoir of visuals far more effective and meaningful than would otherwise be possible. Professors Petrovich and Klausmeier, for example, have on file several thousand completed visuals from which to select for their courses.

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[1] Tables may be obtained from author upon request.

Some of the Advantages

1. Cost. The cost for a 50-minute, fully automated presentation (equipment, materials, and personnel) averages around $300. The cost of a 16mm film or a videotape recording (VTR) of this length far exceeds the MIL price.
2. Integrated color and black-and-white. The motion picture could do the same, but the cost factor would be prohibitive.
3. Flexibility of program design. The MIL presentation can be edited at the convenience of the instructor, whereas both motion picture and VTR editing are more complicated.
4. Flexibility of MIL presentation. The MIL program can be presented at a pace that the instructor feels his students can handle. Both VTR and motion pictures are pretty much inflexible in this regard. Also, with our random-access selection system any combination of visuals can be called.
5. Three screens are available in the MIL presentation—usually only one in either VTR or motion picture.
6. Room lighting. Since the MIL is set up in a rear screen situation, ambient light is not a problem. Lights may be kept almost at full lumination and still allow proper viewing. A VTR, since it is presented via television viewing sets, utilizes pretty much the same situation, excepting TV projection, but a 16mm projection would need a special setup in order to allow for the ambient light problem.
7. Sound. The MIL system utilizes a full stereo high fidelity, 50 watts/channel, and a six-speaker system. The typical motion picture sound system is usually limited to either one or two speakers and to the frequency range of the film's optical sound track, which is far from high fidelity. The VTR, although high fidelity, is also limited by speaker numbers and location.

Research Activities

Research activities centering around the Multimedia Laboratory, both completed and projected for the future, are of several kinds:

1. Analysis of student attitudes toward and reactions to automated lectures. These analyses have been carried out primarily in connection with courses in Russian history and health education. Results indicate: (a) that students strongly prefer programed lectures over regular lectures; (b) that students feel programed lectures present information more rapidly, in more detail, and in a manner which is more conducive to recall; (c) that programed lectures result in the formation of clearer concepts; (d) that students believe these presentations were better organized than regular lectures; (e) that students also felt that the visuals were appropriately related to each other, were clear and easy to understand, were used in appropriate numbers, and were changed at proper intervals; (f) that visuals were well chosen, clearly visible, well-timed, and in proper sequence. The continual analysis of programed and automated lectures on the basis of organization, content, visuals, and over-all student impression has resulted and will continue to result in many revisions and improvements of productions.

2. Comparison of multimedia versus regular instruction in the field of educational psychology. This initial short-period study indicated that the same group of students gained substantially more from multimedia instruction than from regular lec-

tures and that automated materials were retained to a greater degree. Additional follow-up studies carried out over longer periods of time are needed for more conclusive evidence and are planned as part of the future research activities.

In a 6-week study by Snowden the students indicated they were generally well satisfied with the automated-programed lectures but did show a preference for a "live" presentation by the professor as opposed to the same material presented by tape "play back."

3. Study of the characteristics of the laboratory installation to compile equipment standards for use in planning improvements of the present installation and in establishing new installations. Time is being devoted to ways and means of improving automation as well as the study of characteristics of screens and equipment used for rear projection. This is part of a continuous search for creating learning conditions as near to the desired ideal as possible for the viewer.

4. Study of the effects on learning when supplementary color visuals are used in conjunction with black-and-white kinescope films on the tri-part screen. An analysis of data gathered to date indicates that learning may be improved up to 35 percent when supplementary color visuals are presented along with kinescope filmed lessons.

5. Study of the use of video tape and kinescope film clips of classrooms in action to document and strengthen verbal presentation of basic principles of human development and learning in programed lectures.

6. Study of the contributions to learning made by a prepared study outline and by note-taking in a multimedia facility. The McNamara study indicates that a prepared study outline is very beneficial in improving the understanding of material presented via automation. Note-taking is an important factor to consider; if it is a course requirement, the presentation pace must be slowed accordingly for effective learning to take place.

7. Study of the contributions and learning made by the teacher-student utilization of a responding system. One hundred units are presently being installed that will allow students to choose among four possible answers to questions presented by the lecturer. These units will also have the facility to permanently record the students' responses via paper tape that can be read visually or via computer scoring. At all times the lecturer can read the summation of individual responses.

A number of research problems centering around multimedia instruction have been identified and defined in a continuous effort to improve the quality of instruction in large groups at the university level.

1. Determining the optimum verbal-visual load for the learner under automated instruction conditions.

2. Determining the effect of differing learning sets on acquisition and retention of learning in multimedia lessons.

3. Determining conditions under which multiple visuals on the tri-part screen are most effective.

4. Setting up comparative studies on different methods of employing the laboratory equipment and their effect on student learning efficiency.

5. Studying the relationship of visual color and size with acquisition and retention of knowledge.

6. Investigating the use of learner-response stations in the Multimedia Laboratory in addition to existing equipment as a type of programed teaching machine.

7. Studying the effect on acquisition and retention of learning in a two-semester art education course where the assigned professor is absent from the campus for the entire year and where the same basic student population is maintained. In both semesters the automated programed material will be accompanied by a tape-recorded audio portion. A stand-in instructor will be present during the first-semester lectures for

follow-up discussion periods. No instructor and no discussion session will accompany any of the second-semester presentations.

Facts About the Multimedia Instructional Laboratory

Cost

1. Installation cost—$33,000
2. Remodeling room 116—$15,000
3. One automated program, 50 minutes length—$300

Multimedia program time, 50 minutes, automated

1. Production staff—100 hours
2. Professor and his assistants—20 hours

Personnel

1. Director
2. Production and program director
3. Programmers
4. Artist
5. Photographer
6. Stenographer
7. Professors and their assistants
8. Technician, for maintenance and program operation

Equipment

1. TelePro 6000 3¼-inch by 4-inch slide projector
2. Two 2-inch by 2-inch slide and strip film projectors
3. 16mm motion picture sound projector
4. Opaque projector
5. Overhead projector
6. Television projector
7. Tape recorder with sub-audible cueing
8. Phonograph, three-speed
9. Tri-part screen
10. Four teleprompters and accompanying typewriter
11. Lectern with automatic controls
12. Stereo sound system
13. Sequence selector and card reader
14. Multiplexing mirror and table
15. Miscellaneous (electric pointer, black lighted chalkboard, etc.)

BASIC INSTRUCTION

The Feasibility of Machine Registration of the Men's Physical Education Basic Instruction Program[1]

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Washington State University

Multiplying student enrollments have caused some institutions of higher education to explore the use of the computer for the mass registration of its students. The first university to attempt mass registration of its students by computer without preregistration was Washington State University, which sectioned 1,013 undergraduate and graduate students by use of the IBM 709 Computer in the fall semester of 1964. As a part of this registration, the results of the machine sectioning of 1,969 freshmen and sophomore men in the Men's Physical Education Basic Instruction Program were utilized to determine the feasibility of such a registration for a required college physical education program.

Four consecutive semesters of physical education are required of all men undergraduate students. Physical education classes are scheduled to meet twice a week (Monday and Wednesday or Tuesday and Thursday) for one hour, or once per week for two hours. Entering freshmen take a physical education developmental course either the first or second semester of their entrance into the university. From five to six sections of such a course are available; 521 freshmen were scheduled into this course in the fall semester. The remaining 521 freshmen plus transfer students with 60 or fewer hours and all sophomore men were required to make a first, second, and third choice of the available 35 activities. These courses were indicated on their registration material along with their selections for other academic course offerings germane to their undergraduate program.

All university students were sectioned by the computer in order of receipt of their registration materials. Registration material pick-up was allocated on the basis of alphabetical assignment. After receipt of the material, wach student had to report to an adviser to construct a program consistent with his degree goals and aims. It was necessary that the adviser and advisee outline a program utilizing the time schedule and avoiding all time-schedule conflicts. The success of the machine registration was predicated on this one important aspect—all courses requested must have available time segments which do not overlap and which are indicated in the time schedule.

The 709 Computer was programed so as not to be able to differentiate between freshman or sophomore, male or female, athlete or non-athlete. Actual sectioning of the 9,013 students required 40 minutes of computer time. Listing of the students' programs, which was distributed to the students within 24 hours following completion of registration, required about 3 hours of machine time.

Status of section reports were made available to department heads at the completion of registration but prior to machine sectioning and registration. This made it possible for last-minute adjustments in section loads, cancellation of sections appearing not to fill, and the release of "blind" sections (sections established in anticipation of demand but coded so as not to allow students to be assigned).

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[1] Tables may be obtained from author upon request.

Some double sections of coeducational activities were dependent upon equal distribution of both sexes; social dancing was one such activity. Other coeducational sections were scheduled in single sections since the type of activity might prove more popular for one sex than for the other and instruction could take place successfully no matter what the distribution of sexes was; scuba was one such activity.

To better explain the enrollment of a student in a required physical education course by machine registration, I will give an illustration. In the time schedule of classes a student finds his time for pick-up and his place for receiving his registration packet. Upon receipt of the same, he reports for program planning. With his adviser he first fills in his program with his academic courses and labs. After completion of this step, he then chooses a physical education activity in which he has an interest, providing the activity is available at the times open on his program. If it is not, he has two alternatives, either to rearrange his academic schedule to open a time available for his physical education activity or to choose another required physical education course. The same procedure is followed in making his second and third choice of physical education activities.

Once the student's program is balanced, he is then ready for completion of his registration. He takes his program of courses to the registration desk where his courses are converted to IBM code and submitted to the 709 Computer for registration. The computer is programed with all of the available 1,475 courses and 2,441 sections indicated in the time schedule of the university. The computer then seeks to work out the student's program, "searching" to place the student in all of the courses which have been requested. If it can do so, it enrolls the student in all labs, lectures and first-choice physical education activities. If conflicts arise in lectures and labs the machine seeks to work this out by searching for other combinations of lectures and labs but still attempting to enroll the student in his first-choice physical education activity. If not, it then utilizes the second and third choice physical education activity in solving its enrollment problem.

In any event, the 709 Computer will only reject those individuals who have requested lectures and labs in closed sections or courses in which a conflict is inevitable. The same is true for his first, second, or third choice of physical education activities. At the completion of physical education registration for all students, programs are listed and obtained by the student two days prior to the start of classes. Courses in which rejections and conflicts occur are noted, and students must contact their advisers to work out change of sections and program changes; these changes are then made manually.

Table 1 shows 20 of the 34 available activities which were most popular; they are ranked in order of their tabulations in terms of first, second, and third choices and all requests. They are: weight training, golf, social dance (coeducational), beginning bowling, handball, tennis-badminton, intermediate swimming, boxing, scuba, beginning swimming, wrestling, volleyball-soccer, hunting, golf, beginning bowling, badminton, advanced swimming, intermediate bowling, bag punching, and track. As explained earlier, 521 freshmen were sectioned by computer into the physical education developmental course. For obvious reasons, this activity was omitted from the twenty most popular activities.

The use of the information given in table 1 cannot be minimized. One or two examples might suffice. Only two handball courts are available for instruction, yet handball ranks with tennis-badminton as being the fifth most popular activity. As the expansion of facilities takes place, additional justification for the inclusion of handball facilities becomes apparent. Coeducational golf and beginning bowling were

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ranked along with golf and beginning bowling (for men only). Duplicate sections of these activities were offered under coeducational activities since service course directors wanted some assurance that in the event an insufficient number of men requested the coeducational golf bnd bowling, the computer would fill the sections with women. The findings of this study indicate that double sections of golf and bowling can be scheduled.

While table 1 does not indicate activities which caused students to be rejected because of choice and time conflict, other data revealed that activities with the highest rejections were golf, tennis-badminton, social dance, intermediate swimming, handball, and boxing. Of the remaining thirteen activities (remembering that the developmental course was one of the 34 available for choice and was not included in popularity ranking), the following, ranked in order of total requests with their totals in parentheses, are: skiing (63), trampoline (62), tumbling (59), apparatus (52) diving (41), skin diving (34), intermediate weight training (21), modern dance (16), adaptive (15), intermediate wrestling (13), square dance (13), advanced boxing (9), and folk dance (4).

Table 2 shows the pattern of the number of first, second, and third choices made and subsequently enrolled by machine. To measure the trend of enrollment in terms of time of enrollment, the 1,969 students studied were divided arbitrarily into four groups comprising 529, 574, 454, and 412 students. The first group of 529 students was the first to be received and sectioned by the 709 Computer. The last group of 412 students was last to go through registration and to be sectioned.

Regarding these student requests, 89.33 percent of the 1,969 students were registered in activities which they chose first, 7.45 percent were registered in activities which they chose second, and 2.29 percent were registered in activities which they chose last. In addition, 18 students (.91 percent) were rejected from being enrolled in any activity. This rejection rate compares favorably with the overall university rejection rate of 3.6 percent for the 9,013 students registering. Special note should be made of two trends in table 2. First, as the registration progressed, the enrollment into activities of first choice went down, and second- and third-choice enrollments and rejections went up. Secondly, the relatively high retention of enrollment in activities of a first choice as the registration progressed is evidenced by the percentage of enrollment in activities of a first choice of from 72.91 to 98.49 percent. It seems safe to speculate that machine registration does provide a good opportunity for students to receive activities of their choosing even though they might not be first to enroll; additional evidence is provided in the low rejection rate.

On the basis of the study conducted in regard to the feasibility of machine registration for the required program for men's physical education:

1. Fewer sections of physical education activities have to be dropped because of small number of students enrolled.
2. A more even distribution of students in activities is possible, while the primary preference of the student is protected.
3. Better utilization of the facilities and available time is possible.
4. While clerical time for processing drops and adds and change of section increases, the faculty is free to devote itself to other duties.
5. Control of registration is possible by the adding of "blind" sections and the deletion of sections prior to the completion of registration.
6. Good orientation of students to the basic instruction program and proper and complete footnoting of courses in the time schedule (prerequisites, ability, etc.) are essential.
7. Material regarding student choices, trends in section size, insufficient number of sections to accommodate interests of students, and backlogging can be easily determined and quickly utilized for study.

Based on the experience that physical education officials had in regard to machine registration of the required physical education program at Washington State University, sectioning of students by computer is feasible. It is readily apparent that more things can be done with more activities and combinations of activities than was possible with manual registration. Given the opportunity to succeed, the computer will computer will resolve a lot of the problems of economy and staff time.

Scheduling and Utilization of Space in the Indoor Facility

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It is not the purpose of this paper to discuss the planning of the indoor facility but merely to suggest that an adequately planned and well-constructed building is one of the factors that determine the extent to which the physical education program will yield service to the college or university of which it is a part. It is assumed that a gymnasium should be so planned and constructed as best to house the particular type of program that is to be carried on within its walls. There are, of course, many reasons why it is not always possible to have a physical education plant that is ideal. Thus, at any given time, the administrator must use the facilities provided and must attempt through good organization and management to bring about maximum value in terms of services rendered. However, far too often in the past college men and women have been denied the opportunity for full participation and adequate instruction in health and physical education because of limited facilities for the teaching of these subjects or because of failure on the part of administrators to make full use of existing facilities. Too often, this has led to (1) too few hours of physical education instruction per week per student, (2) a specialization of training for athletics instead of physical education training for all students, (3) an imbalance in offerings or opportunities for men and women students—usually with limited provisions for women, and (4) a greater emphasis on spectator sports, with less attention to providing physical education activities to meet the needs of the individual student. The above are only a few of the disadvantages associated with limited utilization of space for physical education instruction.

Good programs and adequate utilization of space are a result of wire curriculum planning and scheduling of space to the extent that the most economical and effective use is made of all facilities available. The gymnasium with its activity areas, offices, and shower and dressing rooms is expensive, and the use of these areas must be planned so as to make the fullest possible use of all available space in meeting the needs of all individuals and groups concerned. It is frequently true that what may appear to be a crowded condition in the physical education plant in reality represents a relatively low degree of space utilization. This is due to a number of factors, among which is the type of building and the extent to which it is adapted to the type of program it is intended to house. The utilization of any particular area in the gymnasium depends upon the physical design, size, and accessibility to that area. It is only natural that the most desirable areas will receive the greatest use when all factors are considered. Another important factor to be considered in determining the utilization of space in the gymnasium is the amount and kind of equipment it contains. Some areas with highly specialized types of equipment and furniture may be among the least used and the most expensive areas in the gymnasium. The extent to which such areas can be made to serve the purpose or accommodate the teaching of several activities in physical education will call for adaptations and changes in curriculum planning and schedule making.

Schedule making certainly is an important factor to be considered in any measure of space utilization. The extent of loss due to schedule making will vary with type of schedule and size of institution. It may decrease space utilization to a slight degree in the large institution and markedly in the smaller college, whereas efficiency in schedule making may increase space utilization from 4 to 5 percent in any institution. It is obvious that the size of classes in relation to the size of the activity area or room is a factor that may result in much waste of space. However, the sizes of these areas are determined when the building is designed and cannot be changed. The fact that most gymnasium areas are of certain standard size may prohibit maximum utilization of spare footage in small colleges where classes cannot be made large enough to utilize all student stations. However, specifically designed spaces with specialized equipment are essential in the gymnasium, and in order to make full utilization of these areas the administrator must give all possible support to reasonable experimentation in terms of courses offered and adaptations in methods as well as staff, facilities, and time. The efficient administrator will recognize that his task in this respect is to attain the greatest utilization of space without any loss as a result of the inadequacy of rooms or equipment for the particular purpose they are to serve. Too often in physical education we make our task more difficult as we err in planning programs in which there is such a diversification of type and equipment in activity areas that it is wholly impossible to make sufficient use of space.

The gymnasium should be recognized as one of the most significant assets of the university community, and the use of this facility should be cooperatively planned so that certain other needs, especially those of a recreational and cultural nature, are served by the same facility which provides space for the physical education needs of the university. Today's colleges and universities need to conserve their financial resources by providing a single facility to serve where in the past several departments have been providing facilities, staff, and programs.

We are living in a most exciting and challenging age. We are also living in an age which is placing increasing demands upon institutions of higher learning for providing many different kinds of educational opportunities for its students, faculty, and the citizenry of its community. These demands place a great responsibility upon the college administrator for developing programs which ensure the providing of such opportunities while at the same time responding to economic pressures, interests, political maneuverings, and changing philosophies. The wise administrator should dictate that the gymnasium be made to yield the maximum service, while at the same time ensuring that there be no loss to the nature of the service rendered.

Colleges and universities must make adjustments to the tidal wave of students on today's campuses. Physical education can solve some of its problems by coordinating more and more its efforts in instruction and use of available space with staff and time. Even with adjustment, mild or drastic in nature, the pressure of increased enrollment will be felt. These pressures, coupled with certain other problems related to budget and a responsibility for making a more effective use of facilities, will lead to the increased practice of teaching classes in areas which may have been designed and equipped for other purposes.

The Voluntary Basic Instruction Program at the University of California, Berkeley

Carl L. Nordly
University of California, Berkeley

Physical education has been voluntary on the Berkeley campus of the University of California for approximately 30 years.

It is not my intention in this presentation to argue for a voluntary basic instruction program. However, if any of you are now concerned about the elimination of a requirement, some of your fears may be allayed. Students enroll in classes on the Berkeley campus in large numbers; the faculty members enjoy teaching them; facilities have been provided and are being planned for the basic instruction program and other facets of physical education.

During registration periods, all new students must sign up for a physical education orientation period in which men and women meet separately. Failure to attend results in a $4 fine. During the period students are informed that there is no special fee for lockers or uniforms; that most sections meet two periods per week—either Mondays and Wednesdays or Tuesdays and Thursdays, with a few sections meeting for 2 consecutive hours (ice skating, sailing, and intermediate tennis and golf); that one-half unit of credit may be earned by successful completion of a section; that four units may be counted toward graduation; that grades count in the grade-point average; that expert instruction is available in a variety of activities in coeducational classes as well as those for men only. Students also are informed about (1) fencing, handball, judo, and weight-lifting sports clubs and (2) intramural sports sponsored by the Department of Physical Education. Finally, a film is shown depicting the facilities and instruction in a variety of activities.

Enrollments in the basic instruction program have been increasing steadily for the last several years. Some students elect to enroll in two sections. During the spring semester 1964, 55.6 percent of the total enrollments were lower-division students, 41.9 percent upper division students, and 2.5 percent graduate students. Approximately one-fourth of the undergraduate students have enrolled in the program in each of the last two semesters.

Enrollments have more than doubled in the program since the 1959 fall semester. The annual increases have been considerably greater than the annual increases in registered students. For example, the increase in the total campus undergraduate registration in the 1964 fall semester over the 1963 fall semester was one-half percent. The total one-half enrollments in physical education sections for men only increased from 2,069 to 2,414 (16.7 percent), for women only from 805 to 927 (15.2 percent) and for coeducational sections 1,432 to 1,554 (8.5 percent). It is interesting to note also that the participations in intramural sports for men (27,308) in 1963-64 increased 16 percent over those in 1962-63; the number of teams (973) increased 21 percent and the number of contests (2,427) increased 20 percent.

Increases in credit enrollments in the basic instruction program may be attributed mainly to several factors: excellent instruction, increase in facilities, addition of activities (bowling, sailing, circuit training), and more coeducational sections. The publicity of the President's Council on Physical Fitness and support given to physical education by the American Medical Association undoubtedly have contributed to the increases. Other influences considered as favorable are the development of the film mentioned previously, the distribution of mimeographed sheets near the end of each semester with basic instruction program announcements designed to encourage students to enroll the following semester, and the posting of pictures and announcements pertaining to the program.

Instruction

The faculty is convinced that the key to maintaining and increasing enrollments is excellent instruction. There is only one teaching assistant in the Department of Physical Education. Several persons are employed part-time at the rank of Junior Supervisor. The teaching load for such persons is based upon a full-time load of 24 hours per week. They are assigned according to their specialties and generally teach not more than two different activity sections, depending upon their qualifications. Most of such faculty members are studying for the Ed.D. degree.

The careful selection and assignment of full-time faculty members to the basic instruction program has contributed to enrollment increases. During the last 4 years enrollments in judo for men have increased from less than 30 to approximately 230 with the addition of a faculty member prepared in physical education who has attained Fifth Degree Black Belt status in recognition of his contributions as a teacher. Enrollments in fencing similarly have increased with the addition of a man who has the equivalent of a Master's degree in physical education from Hungary, has competed on the Olympic team, and has coached the Olympic fencing team for that country. The addition of sports clubs in judo and fencing which compete against other clubs, colleges, and universities has attracted students to these activities and, in our opinion, has interested other students in enrolling.

At a recent professional meeting the comment was made that the physical education classes under a voluntary program are likely to stress fun for enrollees to the neglect of instruction. There is nothing wrong in stressing satisfaction and enjoyment in a teaching-learning situation. In fact, this makes for an ideal learning situation. However, it should be noted that students under a voluntary program actually seek instruction. Our faculty members know that excellent instruction is essential not only to maintain current enrollments but to increase them.

Facilities

Some of my friends have stated that they would anticipate a decrease or halt in expansion of physical education facilities if the basic instruction requirement were eliminated. Such is not necessarily the case. New facilities have been justified by reports about the expansion of the basic instruction and intramural sports programs. Land near the Berkeley campus costs in excess of $250,000 per acre. During the last several years a battery of 9 tennis courts has been constructed on top of a parking structure; an athletic field for intramural sports has been built between residence halls on top of another parking structure; a battery of 6 tennis courts on top of a parking structure adjacent to the gymnasium for women has replaced surface courts at the same location; 4 tennis courts have been added at ground level; facilities for golf instruction have been improved by providing 12 driving cages adjacent to a chipping and putting area; and 8 handball courts have been built under the football practice and baseball field near the gymnasium for men. A canyon has been filled to provide space for (1) 6 tennis courts which are used for intramural sports and recreation for students and university employees and (2) an athletic field which has been lighted partially. This field is used for intramural sports and 3 days each week for freshman baseball practice in the spring and for varsity soccer in the fall.

Prior to 1970 an addition of 30,000 square feet will be made to the gymnasium for women and a small athletic field (approximately 210 ft. by 260 ft.) will be constructed to replace a smaller field. The administration also has reacted favorably to the future construction of an intramural gymnasium and to additional hard-surface courts and athletic fields on top of parking structures as they are built, in spite of the fact that the current enrollment of approximately 27,500 is expected to be maintained.

The argument has been presented that those students who need physical education the most will not enroll in a voluntary program. One may inquire—need it for what? Fitness? Sports skills competence? Contribution to social behavior in sports participation? Knowledge of rules, strategy, and etiquette in a particular sport? Improvement of sports appreciation? Need for participation in vigorous activity? A few years ago sections in circuit training were offered for the first time. Most of the circuit is in a hallway and on steps leading to the balcony of the gymnasium. One hundred and sixty-four men students are enrolled in these sections this fall. Judging from the intensity of their activity I assume all of them are interested in improving their fitness. Of a total of 36 tennis sections, there are 9 beginning sections for men and 6 for women. Coeducational sections are not offered at the beginning level. Apparently, students who enroll in these sections have felt a need for developing some skill in tennis and perhaps an understanding of the history, rules, and etiquette of the game as well. Other examples could be given as evidence that at least some of the persons who need physical education actually do enroll in a voluntary program. No claim is made that all of them do.

Physical Education at Stanford University

John E. Nixon
Stanford University

Requirements and credit for physical education at Stanford University are governed by the following policy approved by the Academic Council of the University in 1957.

This policy and its explanation are contained in the book by Robert Hoopes and Hubert Marshall, *The Undergraduate in the University* (A Report to the Faculty by the Executive Committee of the Stanford Study of Undergraduate Education, 1954-56).

> The committee recognizes that it is desirable that the student be encouraged to participate in an organized or group activity which will also have potential avocational and recreational value for his later life. Thus it is recommended that in lieu of the present Lower Division requirement for physical education, the student be required to participate in an organization activity to a total value of 6 nongraduation credit units, no more than 2 such units to be allowed in any one quarter. In fulfilling this requirement the student may, in addition to physical activity courses, select from such activities as Chorus, Choir, Orchestra, Band, dramatic performances, and such other organized group activities as the Committee on General Studies may approve. During the first two years, at least 2 units of this requirement, 1 each year, shall be devoted to some physical activity, including varsity teams, supervised intramural sports, and organized classes as the Committee on General Studies may approve. Students completing six quarters of the ROTC programs are exempt from this requirement.

In its consideration of the recommendation, the committee met with representatives of the Women's Physical Education and Men's Physical Education departments, sought additional information bearing on the problem, and discussed the matter at length. From the information it received, the committee concluded that the need for compulsory physical activity, particularly those vigorous activities which are likely to terminate abruptly upon completion of the requirement, was at best debatable. On the other hand, the committee was impressed with those arguments for a requirement which would encourage the student to participate in organized or group activities which have potential avocational and recreational value for his later life. It did not believe that such activities need all take the form of physical activity courses, and hence the recommendation that the traditional physical education requirement be expanded to include the other kinds of activities indicated. In particular, the requirement should be interpreted liberally so as to include a broad range of activities without permitting technicalities to stultify the program.

The committee did not question the continuing need for some form of exercise among students and adults generally. It did believe, however, that activities involving physical exercise are much more likely to be carried over to later life if college participation in them is based on an aroused interest rather than on meeting a formal requirement. There was a difference of opinion on the committees of the Study generally as to the need for compulsion to secure participation in physical activity programs, and a few faculty members regarded the new proposal as a craven desertion of the Greek ideal. The majority, however, believed that the physical education departments should be encouraged to make their offerings sufficiently attractive to make compulsory physical education unnecessary, but in any case the proposed 2-unit requirement in a physical activity will give those departments an opportunity to develop an interest in voluntary participation.

The recommendation does not preclude graduation credit for physical education courses, or for cultural and artistic programs, where such credit has regularly been available, except when the course is offered by the student in fulfillment of this requirement. For example, the student may receive the customary 1 unit graduation credit for Chorus unless it is offered to meet this requirement.

Comments

1. Please note carefully that this change in requirements for physical education was part of a total 2-year University-wide review of General Studies requirements in all departments. It was *not* an attack on physical education.

2. Under these regulations it is possible for a student to take a class for each of the 6 quarters of his freshman and sophomore years (non-credit) to satisfy the Group Activities Requirement of his General Studies program.

Furthermore, this same student (or any other student) may take as many as 12 *additional* physical education courses on an elective basis, which grant him one quarter-unit of credit each. In other words, he may earn 12 quarter-units of academic credit in elective physical education classes which can apply toward the total number of academic credits required for any B.A. or B.S. degree in the University.

In total, it is possible for one student to take 6 non-credit physical education classes, and an additional 12 academic credit classes, or a total of 18 physical education classes during his 4 undergraduate years.

3. Despite the statement in the paragraph above, a student may not count intramural sports participation as one of the two non-credit courses he must take in physical education as the minimum requirement for his General Studies program. He must take at least one physical education class in each of his freshman and sophomore years. Freshman and varsity athletic teams are considered to be physical education classes for advanced level students.

4. Many members of the Department of Physical Education and Athletics for Men do not approve of the policy, which permits complete exemption from physical education for men enrolled in ROTC programs. This ruling was placed in the policy by

the central administration for administrative reasons which never were reported to us or to the Academic Council. It may have something to do with ensuring a minimum adequate enrollment in ROTC programs; it certainly is not because of any presumption that ROTC drill or other experiences actually is a defensible substitute for physical education. We hope to have this part of the policy reversed in the near future.

5. Please note that graduate students may enroll in physical education for academic credit, which applies to the total number of units required in their M.A. and doctoral degree programs. The extent of such enrollment by a graduate student is controlled by his adviser and the policy of his major department but by-and-large liberal interpretations are extended throughout the University and we have many graduate students in physical education classes.

We do not permit physical education graduate major students to take physical education activity courses for credit. Since they have already completed 70-80 quarter-units of physical education classes in theory and laboratory courses and in physical education basic instruction classes, we do not believe it is defensible or necessary. If a physical education major student has a skill deficiency as a graduate student, he must take the course. A unit of academic credit will be recorded on his transcript, but it cannot be submitted in partial fulfillment of unit requirements for any degree or teaching credential at Stanford.

The Foundations of Physical Activity Course Adopted at the University of Illinois

William J. Penny
University of Illinois

The history of physical education substantiates the importance of physical fitness as one of our professional objectives. Today the recognition of the physical fitness objective is particularly wide-spread. This resurgence of interest in physical fitness is recognized not only within our profession but by the public as well, due to the support and publicity which has been given to the need for fitness by the national government. What are we doing as a profession to continue this momentum and to insure recognition by the individual of the need for a life-long approach toward physical fitness?

The Foundations of Physical Activity course at the University of Illinois evolved from both a practical and theoretical need.

The practical need developed from changing registration policies. The University of Illinois adopted pre-enrollment procedures which permitted entering freshmen to register for fall classes during the summer months. Pre-enrollment created a problem in that the Basic Instruction Program no longer had control of the number of students enrolling in the various sports activities, and the valuable guidance session with the entering freshmen had been lost. A common course for all freshmen was then considered necessary to alleviate these problems.

The most critical factor is that of meeting the needs of the student. In most instances we do not get a fit individual in the universities, due in part to the inadequacy of conditioning and physical development programs offered by the schools. This fact is highlighted by the number of students who, after 8 years of physical education on the elementary, junior high, and senior high school levels, approach the university physical education instructor and ask how to construct a personal fitness training program. The above example is probably not the exception. How many students upon graduation from the secondary schools understand the function of their bodies well enough to intelligently develop a program of exercise or training to cause beneficial changes? Is it not important for the student to understand the basic principles of use and disuse, hypertrophy and atrophy, progression, overload, "creeping obesity," hypo-kinetic disease, and other factors associated with exercise programs?

A course which enables the student to train and make beneficial changes in his body, through applied physiology, is a necessity. In a few short years the university student will be moving into his life's work, at which time his mental prowess will be maturing but his physical being starting to decline. Research indicates that physiological resilience begins its decline around 26 years of age, just the time when the individual is attempting to make a sound initial contribution to society. Should not both the mental and physical abilities of the individual be reaching optimal function at this time?

High scores on fitness tests are not the major objectives of the Foundations course. No doubt certain individual differences are evident with regard to strength, flexibility, and cardiovascular potential. What is sought is a basic understanding of the physical, through applied physiology, kinesiology, and physics as they apply to movement and training, and their application in later life. Physiological, historical, and philosophical research in physical education are dynamic and growing parts of physical education. The Foundations course is one way of disseminating information from the researcher to the student. The presentation of a basic fund of knowledge on the effect of exercise on the body enables the student to comprehend more completely the *why* of physical education and its implications for personal fitness. This can assist in minimizing the indiscriminate use of exercise and training programs, which can then be constructed intelligently for a specific activity or individual need.

The Foundations of Physical Activity course at the University of Illinois has given physical education added status in the eyes of the academic faculty as well as the student. A truly academic body of knowledge is presented, criss-crossing many disciplines as is necessary when working with a subject as complex as the human organism.

As listed in the Instructor's Handbook, the primary purpose of the Foundations course is to acquaint students with basic knowledge and understanding supporting the reasons which demonstrate why participation in physical activity can contribute to optimal healthful living. The specific objectives of the course are:

1. To develop an understanding of the role of physical education within our society.
2. To briefly acquaint the individual in relation to physical activity with the human organism.
3. To acquaint the individual with some effects of physical activity on the growth and development of the human organism.
4. To develop an adequate understanding of fatigue, relaxation, rest, sleep, diet, and aging as these factors relate to health and well-being throughout life.
5. To conduct a testing program that includes classifying each student's physique and evaluating aspects of his organic and motor fitness.
6. To provide a progressive conditioning program in which the student is exposed to several selected methods of training.

7. To provide counseling and guidance in the selection of activities gauged to meet immediate and future needs and which emphasize the values and limitations of various types of physical activity.

8. To acquaint the student with special services offered within the University environment by the College of Physical Education.

9. To make known facilities and methods from which a personal fitness program can be designed and implemented.

10. To inform the student of reliable sources of information concerning the effects of exercise on his personal health.

Prior to making this course a first-semester requirement for entering freshmen, the program was offered on an experimental basis for one year. Suitable adjustments were made during the trial year, and now each undergraduate student who enters the University of Illinois with less than 60 hours of credit is required to take this course. Classes meet three times per week for two activity periods of 30 minutes and one lecture period of 50 minutes. The latter classroom phase is devoted to lectures, films, discussions, and written examinations.

Physically handicapped students are required to attend all lectures, but they remain in therapeutic exercise sections in place of the regular laboratory section.

During the first semester the Foundations course was offered, many students expressed distress at the thought of a lecture in physical education; however, in subsequent semesters the lectures have been very well received. This information was ascertained as a result of questionnaires given to the students in lecture sections, ranging in size from 125 to 300 students. The laboratory sections are limited to approximately 25 students to maintain personal contact with the student. The stress in the laboratory sections is not on maximal physiological changes, which of course will not take place training twice a week for thirty minutes, although the students are encouraged to add a third training period per week if possible. The laboratory sections are designed for individual testing with each student participating in a standardized 10-item fitness test. Each student constructs a fitness profile appraising his own physique and organic and motor fitness, and then is introduced to a program of interval training, circuit training, weight training, and calisthentics. The training phase is followed by a second testing program and further evaluation. Each student is expected to keep daily records of his progress during the semester.

Because of the number of students enrolled in the Foundations course each semester (1500), it was impractical to assign the necessary lecture readings from library sources. Interested staff members involved in the planning stages of the Foundations course under the direction of the Dean of the College of Physical Education wrote a text, *Foundations of Physical Activity*, which included the lecture readings, standard score and percentile tables, profile sheets, and a portion for daily laboratory work, which gives each student at the end of the semester a compact record of all of his work.

Recent evaluation forms completed by the students enrolled in the Foundations course indicated the need for an advanced course which involved three laboratory periods per week for those students desiring to continue their training. The advanced course is now serving as an important follow-up to the Foundations of Physical Activity course.

Intellectualizing the College Approach to Basic Instruction in Physical Education

Alexander Petersen, Jr.
Southern Oregon College

Please be assured at the outset, the title notwithstanding, that I do not suggest less activity for our students but more activity.

This is an especially appropriate time to revaluate the basic program of college physical education and to suggest new answers to old questions. It seems that we have been under attack from without since the beginning of time. It would appear that we have won many more battles than we have lost. Now, for the first time I can remember, we are under general attack from within. The traditional required basic program, the great foundation block of our profession, is beginning to crumble under its own weight.

While we may be dissatisfied with our results now, and as much as we insist that changes or additions are needed to improve our programs, I am cheerfully certain that if we abolish required programs outright we will be defaulting on an obligation we have in general education. Personal health instruction is a fine thing, but it will not substitute for the heart and soul of physical education. If there are to be any areas required in general education, and I contend there must be or general education may not be very general, physical education should be included.

In general education we should begin with the student and his needs in our present culture and relate the pertinent knowledge from history's vast storehouse to these needs. Through physical education the student, at the least, specifically needs:

1. To know about his body and how to maintain it in optimum fitness and health.
2. To have the skills, knowledge, and motivation for physical recreation.
3. To develop understanding, appreciation, and control of body movement.
4. To find, through movement, greater fulfillment as a human being.

It should be noted at this point that exercise as exercise, whether PE 180 or Ex 101, is not a part of general education any more than "Proper Diet," PD 111, or "Proper Sleep," PS 190, one credit hour.

We must, through our professional programs and professional leadership, cause the programs in elementary and secondary schools to be improved to the point where the high school graduate is acceptably "physically educated."

Then we can put the frosting on the cake with an intellectual approach in basic physical education at the college level in the following manner.

First, an academically oriented one-term course which might be "Basic Physical Education" or "Backgrounds of Physical Education." This might include such things as:

1. The history of man's use of movement from the beginning to the present.
2. The biological foundations, including key elements of the physiology of exercise.
3. The psychological and sociological foundations.
4. Backgrounds for and the development of a personal program of physical recreation throughout life.
5. Laboratory experiences to evaluate the student's current status in fitness and skills.

Second, a 4-year program taking several days of the student's time each term and consisting of testing and guidance. It might be called "Physical Education Laboratory." This would not be the same as the laboratory experiences in the preceding course. The purposes of this program might be to:

1. Conduct a required testing and guidance program at the beginning of, or during, each term.
2. Evaluate the physical status of each student and discuss his needs and how these needs might be fulfilled.
3. Show each student how his physical status compares with other students and with his own optimum potential.
4. Show changes in physical status and account for these changes as an aid to the student's understanding of the effects of his exercise or lack of it.

Third, a required or elective program of *participation* in physical activity a minimum of 3 different days each week for all 4 years. The student would have his choice of activity and time, within the limits of the availability of facilities. This requirement might be fulfilled through:

1. Voluntary recreation, either on or off campus.
2. Participation in intramural or intercollegiate athletics.
3. An elected class in a specific physical education activity.

Elective physical education classes in the regular activities would continue to be offered. It is recommended that credit continue to be given. Consideration should also be given to offering short-term non-credit clinics in certain activities such as bowling or archery. We might also assign staff to a specific activity area to supervise and coach individuals or small groups as voluntary recreation. The amount of time for such an assignment should be indicated, to the extent practicable, by student interest in such assistance.

A listing of the functions of the staff in serving such a program of basic instruction in physical education will serve as a review of the suggested program. The staff would:

1. Teach the academic class "Basic Physical Education."
2. Participate in the periodic testing program, and serve as counselors for the interpretation of an individual's physical status and needs.
3. Supervise the recording of required-elective participation.
4. Teach physical education classes in activities for credit.
5. Conduct non-credit (except on staff load) clinics.
6. Provide individual or small-group coaching in activities during required-elective participation.

Several ideas are offered for the administration of this program.

To help equate staff loads and to give the student greater flexibility in scheduling, Basic Physical Education could be required any freshman quarter or semester rather than the first or any other specific term.

The testing and guidance phase could be a total staff effort at the beginning of each term, or the student's week for this program could be set at a specific time during the term. The relative week for any given student would then be maintained throughout his years in school, providing a somewhat even spacing between testing and counseling periods.

In recording the required-elective participation, the student could be asked to sign in and out in uniform for gymnasium, pool, or athletic field activities. This is not unique. Scoresheets or special records might be used for off-campus activity such as bowling, golfing, or skiing. We might even accept the student's word for acceptable activities like boating, cycling, or hiking. After all the key is interpreting the effects of the student's own participation so that he might learn the effects of the quality and quantity of his exercise.

This approach may be one answer to the sometimes unbeatable problem of limitation in facilities. However, this comes here as an afterthought rather than as the impelling reason. Thus, the program is meant to stand on its own merit and not represent any compromise.

Food, rest, and exercise have been listed as the three essentials for our life. Since we do not require a wholesome diet or adequate sleep of our students, the time may come when we will not require exercise in the college program. We probably have no right to whip the students to exercise if they freely and knowingly choose not to exercise. This would leave us with the course Basic Physical Education and the testing and guidance program Physical Education Laboratory as the basic instruction program in college physical education.

The acceptance or rejection of an idea is an intellectual exercise on the part of man. It is time to sell physical education on an intellectual basis to the young adults in our colleges.

Physical Education at Emory University

Clyde Partin
Emory University

During 1963-64 the Curriculum Committee of Emory College proposed a new 4-year course of study which has been adopted by the faculty. The structure in essence involves a change from the present three 5-hour courses and a 1-hour course to four 4-hour courses and a 1-hour course. The scheduling pattern is being studied, courses are being revised, and faculty loads are being modified. The complete revision will probably come into effect during the next 5 years. The faculty and administration feel that the demands for higher levels of quality and efficiency in our instructional programs, the increasing enrollments, and the accelerating growth of knowledge makes it imperative to study and revise our present structure.

The faculty of the Division of Physical Education and Athletics is reviewing rather strenuously the initiation of team teaching, a technique which is in various stages of experimentation in American elementary and secondary schools.

Team teachers share instructional tasks and goals, plan together, assign appropriate tasks to individual team members, and observe each other teach; join together in the evaluation of instruction and hold discussions based upon common observations of teaching and the effect of teaching; plan common tests and trade teaching techniques. The team often brings the entire group of learners together for orientation purposes through demonstrations and visual aids. Team teaching facilitates homogeneous grouping of types and levels of learning capacity and gives further cognizance of individual differences.

Team teaching as a technique or structure may improve the quality of instruction, develop improved instruction techniques, and make better use of teacher time, space, and resources.

In light of these suggestions, staff members who teach the same course (wrestling, for example) are encouraged to meet together, plan a syllabus together, watch each other teach, and in general offer constructive criticism of each other's teaching techniques. We feel that much can be learned in meeting the situation in this manner. We feel the student gains immeasurably more than he would from a one-teacher situation.

Required Program in Physical Education

The Department of Physical Education serves the entire University. Physical education is closely coordinated with the general education program of the University for the realization of the most effective educational outcomes. The primary purposes of the physical education program are:

1. The promotion of a program that emphasizes the fundamental aspects of general physical fitness and serves to increase the capacity of students for vigorous work or athletic effort. Such a program will provide students with an opportunity to raise their present status of physical efficiency so that they may better meet the standards necessary for everyday life.
2. The promotion of a program that emphasizes the development of practical and athletic skill which will better equip the student to participate in a variety of sports and enable him to engage in a continuing program of physical activity after his college days are over.
3. The promotion of a program that fosters appreciation of and desirable attitudes toward physical activities. Such a program will provide opportunities for the development of good social conduct, whether it be from the standpoint of an active participant or a spectator.
4. The promotion of a program that encourages youth to maintain and improve his own health and to impress each student with a wholesome respect for the human organism.

Facilities

Gymnasium. The gymnasium contains 40,000 square feet of functional floor space. The structure was planned as an integral physical education instructional unit. It was completed in November 1948, and the total cost was $364,456.

1. Main Gymnasium: 160 ft. by 100 ft. by 22 ft., three basketball courts, five badminton courts, three volleyball courts, and standard gymnastic equipment.
2. Swimming pool: 45 ft. by 90 ft., single spoon construction, depths 3¼ ft. to 4½ ft. to 12 ft. to 10 ft. Two 1-meter diving boards and one 3-meter diving board, underwater observation window, spacious decks and 26-ft. ceiling, glass brick windows, breeze windows near ceiling on three sides of pool, movable wooden partition separating gymnasium and pool. (Five hundred spectators may sit in gymnasium on movable folding bleachers and view swimming meets in comparative comfort.) Control room for treatment of water contains four 90-inch sand filters, a chlorinator, proportioners for alum and soda, hot water heater. Pool capacity is 210,000 gallons.
3. Four four-walled handball courts: 22 ft. by 40 ft. by 22 ft., forced-air ventilation.
4. Four classrooms: alternately utilized as testing and visual aids laboratories and as wrestling rooms.
5. An office suite: four rooms 12 ft. by 15 ft., a large work and reception room.
6. Four tower rooms: 24 ft. by 24 ft., utilized as offices, equipment room, and lounge.
7. Three locker rooms: 1,000 lockers, two gear rooms, and four shower rooms.
8. Laundry: rotary washer, centrifugal dryer, and steam dryer.
9. Special exercise room: weights, striking bags, stall bars, pulley weights, and other body-building equipment.

Other Instructional Play Areas.

1. Four playing fields (approximately 30 acres), which provide space for seven touch football fields, six soccer fields, a baseball diamond, a 440-yard cinder track with a 220-yard straightaway, and seven softball diamonds.

2. Twelve laykold tennis courts.

3. These same outdoor areas provide space for archery, badminton, horseshoe pitching, and volleyball.

Proposed Facilities.

1. Tennis courts: eight laykold courts and tennis center.

2. Addition to present gymnasium: dance studio, gymnastic and wrestling area, two squash and two handball courts, a health club, storage space, locker rooms for men and women (capacity 2,000), and four offices.

General Statement on Required Physical Education

Approximately 1200 men and women take part in the Required Program of Physical Education at Emory, with all students meeting three times weekly for six quarters. Each student has an opportunity to receive intensive instruction in six sports during the 2-year period, with academic credit awarded on the basis of one-third quarter-hour for each hour of class work, with letter grades and quality points awarded as in any other college course. Six quarter-hours of credit are required for graduation.

Letter grades are given for class performance with grades based on class work, improvement as evidenced by skill tests, practical tests, and written tests covering rules, history, and strategy. Class periods are divided into three specific areas: warm up, intensive instruction, and playing the game or sport.

Curriculum. The curriculum in physical education for freshmen and sophomore men and women includes the following activities:

Academic physical education
Archery
Badminton
Basketball
Basic skills
Camping and outdoor education
Folk games
Fundamentals of movement
Golf
Gymnastics
Handball
Modern Dance
Riflery
Softball
Soccer
Speedball
Speed-a-way
Sigma Delta Psi
Swimming (survival)
Tennis
Touch football
Track and field
Tumbling
Volleyball
Water crafts
Water ballet
Weight training
Wrestling

Motor Ability Testing Program

In setting up a good testing program, the validity, reliability, objectivity, norms, costs, personnel, and time of administration must be determined. The tests which are used at Emory University by the Division of Physical Education are primarily used as classification tests; that is, our aim is to place students in homogeneous groups so that more effective teaching may be realized. Equating the power for ability of individuals within the large homogeneous group may also be carried out so that really maximum homogeneity may be obtained. We have found that by classifying individuals we have not only created a better atmosphere for teaching *per se* but have also developed more desirable attitudes toward physical education by the class members. This is because they are competing with persons of their own approximate abilities and interests. The instruction is geared to the group as a whole rather than to the lower-motor-ability group as is generally the case when a heterogeneous group is found. Another feature of homogeneous grouping is the social development which comes as a result of a more active, more co-operative attitude.

With these thoughts in mind the members of the staff of the Division of Physical Education at Emory University have for the past 5 years administered a four-item test to incoming male freshmen.

The test items were selected because they were felt to be pertinent to the activities which are carried on in our required, intramural, and intercollegiate programs. A separate test to measure the swimming ability of each student is also given at the same time to determine the proper swimming classification for the individual. The swimming test is a 50-yard swim for time with the faster swimmers being placed in the A group, next fastest in the B group, and the slowest and non-swimmers in the C group. Each student is then required to take one quarter of survival swimming.

The four items comprising the classification test are:

1. *Sargent jump* (test of explosive power). Here the student is instructed to stand facing a blackboard. He holds a piece of chalk in one hand, and, while standing flat on the floor, he raises both arms above his head. At the top of his reach, he makes a mark on the board with the chalk. Then, facing in a sideways direction, he bends his knees, swings his arms down and to the rear, and jumps as high as possible off the floor. At the peak of his jump he extends his arm fully and makes a mark on the board. The distance between the two marks represents his jump. Each person is given three jumps and the best of the three is measured. Measurement is to the nearest half-inch.

2. *Sixty-yard dash* (test for speed). This is a run in which each man is timed from start to finish, with the time being recorded to the nearest tenth of a second.

3. *Softball throw* (test of arm and shoulder coordination). Students are permitted three throws, with the best of the three measured to the nearest foot. The sarting point is represented by a line. Stepping over the line disqualifies the throw. A single-step throw, followed by a follow-through step with the opposite foot, is prescribed.

4. *Zig-zag run* (test of agility). In this test an area 16 ft. by 10 ft. is used with chairs placed at each corner and one chair in the middle. The student then runs around the chairs making a figure eight pattern. He makes three consecutive runs and is timed to the nearest tenth of a second.

The test battery is given in both the fall and spring quarters, and the percentage of improvement is determined. Usually of the students tested in both the fall and spring quarters about 75 percent show a marked degree of improvement.

For purposes of classification the groups were divided into three sections: (1) the high group, 60-99 percentile, (2) middle group, 36-59 percentile, and (3) lower group, 0-35 percentile.

Based upon the experience and evaluation of the members of the Division of Physical Education, the test may be said to be meeting its objective: the groupings have, for the most part, resulted in a homogeneity of performance level.

Class Organization

Using the preface that team teaching organizes teachers into instructional groups that take advantage of individual talents, specialized training, and variations in personality, Emory organizes classes as much as possible according to this definition.

After the testing program has been completed students are placed in classes according to the results of the tests. Instructors are then assigned to the classes according to their individual talents, specialized training, and personalities. With a very versatile staff this premise of team teaching is able to be carried out successfully. For example, some students who score extremely high (80-99 percentile) on the motor-ability tests, are placed in a class whose purpose is to acquaint them with the requirements of Sigma Delta Psi, national athletic fraternity. We have found this class to be one of our most challenging classes for the high level group, and a number of students have completed the requirements for membership as a result of having started work in the class.

Other students who score high (60-79 percentile) on the motor-ability test are placed in activities requiring a fairly high degree of skill. One instructor is in charge of the group, but he has the prerogative of calling in other members of the faculty to cover certain areas of his course which he feels can be better taught by them. An example of this might be a class in basketball in which the class instructor is strong in the area of teaching fundamental skills and offensive play but is weak in the area of defensive play, team strategy, and officiating. In this instance, another instructor who is strong in these areas is called in for instruction in that particular area. A staff member who is actively engaged in officiating, for example, might be used to discuss rules and officiating techniques.

Students who score low (0-35 percentile) on the motor ability tests are assigned to a basic skills section. Here again they are assigned to an instructor who is particularly strong in this area but is able to call in other staff members for consultation, demonstration, and teaching. Considerable practical experimental work is being done at Emory on teaching methods in general regarding the low-motor-ability students. Plans have been advanced on how to cope with the increasing numbers of students and still maintain high-quality educational programs. Some physical educators have advanced the plan of initial testing of all incoming students upon entrance to physical education classes, exempting the higher-motor-ability groups and concentrating on the medium and low groups. Fortunately, at Emory we have been able to maintain a program for all groups but have found that we do have an increasingly larger number of low-motor-ability students entering each year.

Using Mathews' definition of motor ability as "the immediate capacity of an individual to perform in many varied stunts or athletic events," we attempt in our basic-skills classes to raise the motor-ability score of the individual student. Although we have had success in increasing the motor-ability scores of our students, certainly we know that simply raising the scores does not in itself mean that we have increased the desire of the student to take part in games and sports activities. However, along with a conditioning program we feel this is the first step for students of this type. Although we use the quarter system at Emory and have in the past only used one quarter for a course of this nature, this year we will make the basic-skills class a three-quarter sequence, with two quarters being devoted to work in the gymnasium and on the athletic field and one quarter to survival swimming.

Through motor-ability tests, strength tests, and physical fitness tests we have found that the students on this level are usually low in each of these areas. Consequently this past fall quarter three classes in basic skills were taught, with one class spending 40 percent of the class period on conditioning work and the other 60 percent of the time on the fundamental skills of running, jumping, hopping, skipping, the fundamental skills of tumbling, and organized relays and games. Another class spent the entire quarter in a weight-training class with considerable emphasis being placed on exercises to strengthen the upper body area in which they were found to be weakest after having been tested with simple strength tests. The third class was given a physical-fitness test battery, and this class spent the quarter working on exercises designed to increase strength, endurance, flexibility, agility, arm-and-shoulder coordination, and speed.

Out of 74 students taking part in the three classes 71 increased in their motor-ability percentile score, the increases ranging from a low of 1 point to a high of 41 points. The class that engaged in fundamental skills showed the largest average increase, although it was not significant at the .05 level of confidence; the weight-training group was a close second. The most spectacular increase was from a student who scored in the 21 percentile initially and raised his score to the 62 percentile. Three other students also raised their scores by a large enough margin to promote themselves from the low-motor-ability student to the high-motor-ability student in one quarter. The students who took part in the fundamental-skills class the past quarter will engage in weight training the winter quarter, and the weight-training class will engage in the fundamental-skills class. During the spring quarter both classes will be enrolled in swimming.

Although in the past one instructor has taught all of the basic-skills classes by using the team-teaching approach, in the future several instructors will be responsible for the different areas involved in fundamental skills and physical fitness.

Health Examination

Each student entering Emory University for the first time is required to furnish a report of complete physical examination made not more than 6 months before he enrolls in the University. The report is to be made upon an examination form provided by the University. All examination forms of students entering in September are in the possession of the staff of the Health Service before March 1. These examinations are closely scrutinized and evaluated. Prescriptions may call for re-examination, special activity, rest, or academic physical education.

The Department of Student Health makes every effort to give support to the Division of Physical Education and Athletics in the promotion of its sports education program. At the same time, the Health Department seeks to prevent the injurious effect of the wrong type of physical activity for those students who require exercise restrictions. Thus, by means of cooperative work, both departments endeavor to maintain, protect, and improve the physical health of Emory students.

We feel that this is truly a team effort in that the student is originally seen by his own doctor and then has his medical examination reviewed by our Director of Student Health; then the Director of the Division of Physical Education is consulted and advised as to the proper disposition of the student. Evidence of the excellent cooperation that exists between the Director of Student Health and the Division of Physical Education is the fact that less than 1 percent of our students are not engaged in some type of activity.

Programed Instruction for Basic Physical Education Courses[1]

Kenneth A. Penman
Arizona State University

The term "programed instruction" or "automated instruction" refers to a method considered generally to include any means, devices, or material whereby teacher or tutor functions are replaced. This automated sequence of instructional segments is prepared in advance and is capable of instructing effectively without direct intervention or modification by a teacher.

It can be readily seen from this definition that programed instruction is far from being a panacea for all problems of health, physical education, and recreation. No automated program, regardless of its size or quality, can anticipate the semantic interpretation of all students. Our problem, then, is to ferret out the advantages which programed instruction may have for the basic physical education program.

Problems Encountered in Basic Physical Education (BPE)

We may begin by enumerating some of the basic problems encountered in providing BPE programs.

1. Large class sizes—this situation does not provide the opportunity for enough personal interaction between the teacher and the student.
2. Teachers teaching many sections—in some institutions instructors may teach ten sections with 50 students in each section.
3. BPE courses are established with many sections (30-40 not uncommon at one institution).
4. A large number of BPE sections requires a large number of instructors (often as many as 15 different instructors).
5. The erroneous assumption is often made that all of these instructors are qualified to teach the "hows" *and* "whys" of BPE.
6. A variety of clientele is called upon to staff the BPE courses. Specialists in physical education, recreation, health, athletics, and intramurals, as well as graduate assistants, are called upon to lecture on the value of physical education to the college student. Expert as they may be in their respective fields, they are seldom all prepared or interested in teaching the academic discipline which we seek.
7. Inconsistent evaluation exists.
8. Course time is not available to lecture—we need what time we have presently for skill and cardiovascular development.

After reviewing the various kinds of automated instruction, we shall see how programed instruction can be applied to these problems.

Characteristics Common to All Teaching Machines

By the use of this tool (programed device of some type) three great advantages are realized:

1. The same material is presented to all students and each student is required to make frequent responses to this material.

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[1] Bibliography may be obtained from the author upon request.

2. Each student is provided with immediate feedbacks or information regarding the success or failure of the specific responses to the material.

3. The student is allowed to work individually and to adjust his rate of progress to his own needs and capabilities.

Teaching Machines

The above advantages are characteristic of all teaching machines. The question then arises—How many kinds of teaching machines are there? Teaching machines may be subdivided into two types. Mechanical machines vary from plastic objects ($8\frac{1}{2}$ in. by 11 in.) with punch mechanisms for responses to highly complex electronic consoles such as the Mark I Autotutor produced by Western Design and Electronics. The expense of these machines, their inaccessibility to students, and the lack of space to house them has limited their use.

The second type is the paper teaching machines, programs which are presented in a manual or textbook form. Basically, these are of two kinds—the linear program and the branching program. The philosophy behind the two kinds of paper teaching machines is quite different.

Linear Programs

Linear programs consist of material which is presented in very short units, generally not more than one sentence in length. The sequence of sentences or incomplete statements may be continued horizontally page by page with the missing words on the succeeding page, or they may be presented vertically on a page from top to bottom with the desired response concealed by a special mask or marker.

When the linear approach is used, all students read every frame in the same sequence. One type of linear program advocated by B. F. Skinner requires a constructed response. A brief statement is presented followed by a question or statement which requires the student to construct a response. The subsequent frame provides the word or words which should have been constructed. (Example: "The first requirement of a teaching machine, remember, is that it must present information and require the student to make frequent __________." Answer on next page: "responses.")

The two premises upon which Skinner bases the constructed response type of program are that recall is more efficient than recognition in learning and that the act of responding tends to cause learning.

Pressey devised a linear approach which utilizes the multiple-choice response. A student is given a bit of information and then asked a question about it. Alternate responses to the question are provided. Only when the student selects the correct response will the next stimulus be presented; thus, all students follow the same sequence of multiple-choice questions.

The rationale for Pressey's multiple-choice linear program is based partly on two factors:

1. The law of frequency—The student may sometimes get a wrong answer, but in each frame he ultimately gets a correct answer.

2. The law of recency—No matter how many wrong answers a student may try in response to a question, the correct answer is always the last one and is more likely to be remembered because it comes closest to the reenforcement.

Branching Programs

Dr. Norman Crowder developed the branching technique—often called the scramble book. Crowder's technique presents material with multiple-choice responses, as does Pressey's, except for one huge difference: all of the alternatives lead somewhere. The assumption in branching programing is that a wrong response does not necessarily hinder the learning of a correct response. The response made is useful mainly in *guiding* the student through the program. Each response is used to test the success of the latest communication to the student, and in that sense it lets the program know where to take the student next.

Since errors or misconceptions are corrected before the learner proceeds, the step size within the program can be larger and the main line of the program may proceed more rapidly than in the linear programs.

With the branching type of program, in addition to having the possibility of several correct responses, many questions may have no "correct" answer at all but rather express an opinion. Differing opinions may be given as alternatives, the subject being treated differently depending upon the branch chosen. For example, the programmer might ask, "What is the better way to develop strength?" Answers: "(1) with isometric exercises, (2) with isotonic exercises." Each answer would develop a separate path which may reach a dead end or eventually return to the main line.

The art of branching is not in breaking the subject into factual bits and laying them out end-to-end but rather in presenting a concept or a cluster of facts as clearly as one can and then answering, on separate pages, whatever important misunderstandings or objections that can be anticipated.

How Programed Instruction Can be Used in BPE

1. Large classes—Each student can purchase his own program, which consists of the academic content of BPE, and progress through it at his own rate.

2. Teaching many sections—Even though he taught many sections, a teacher would never need to be concerned about whether he had conveyed a particular point or concept to all his classes.

3. Many sections of BPE—A paper teaching machine would provide that each student received exactly the same material.

4. A large number of instructors—A program would assure that the "academic" content was covered and was consistent regardless of the number of instructors.

5. Qualifications of instructors—Conformity is maintained through a self-instruction program.

6. Preparation time of instructors—The program eliminates the need to prepare lectures in the academic area of BPE.

7. Evaluation—Since all students have the same program, they can all be consistently evaluated by a standard examination.

8. Available lecture time—No additional course time is required for teaching the academic material since the program is a self-teaching tool.

Commercial and Homemade Programs

Homemade programs can be constructed by anyone interested in the technique. There are many areas in our field in addition to BPE where this technique can be effectively used. However, I cannot think of any area in HPER or in any other area of the college or university where programed instruction can be better applied. The AAHPER has recently established a committee to investigate the uses of programed instruction in our fields. At the present time there is one commercial program available which applies the scramble technique to BPE. This is also listed in the bibliography.

When evaluating these programs we should not be concerned about the fact that the page is only half full of printed words or whether programed is spelled with one or two m's, but rather with the quality of the program? Does it meet the academic criteria? Does it meet the needs of the college student in helping him to prepare for a full life?

A State Legislature Attempts to Dictate the Curriculum for the Basic Instructional Programs

N. A. Ponthieux
Texas A&M University

Financing higher education in the United States has become a grave problem. The shortage of monies is causing physical education to fight for its existence once again. The over-emphasis on physical fitness without regard to all the objectives of physical education has given the Texas Legislature an opportunity to economize. The following rider was included in the last appropriation bill:

> *Section 26*
>
> PHYSICAL TRAINING. None of the funds appropriated in this article to the general academic teaching institutions shall be expended for the operation or maintenance of compulsory physical training programs, regardless of whether or not credits are granted for participation in such programs, and regardless of whether such participation is required for degree programs. It is specifically provided, however, that the provisions of this Section shall not apply to the following kinds of physical training or physical education programs:
>
> A. Organized instruction classes for students majoring in physical education; and
>
> B. Programs of mass calisthenics conducted with the purpose of encouraging appreciation of the science of bodily exercise without apparatus or equipment, or with light hand apparatus or equipment, and developing bodily strength and gracefulness.
>
> It is the intent of the Legislature that physical training or physical education programs of a recreational nature be financed from student fees, auxiliary enterprise funds or other non-State appropriated sources.

The state Attorney General ruled this rider unconstitutional and alleviated the problems it would have caused until the next appropriation session. The Chairman of the Legislative Appropriation Committee informed the Texas Association of Health Physical Education, and Recreation that this rider would be considered again during the next session.

As stated, the intent of the Legislature was that recreational programs be financed by other than appropriated monies. However, school administrators do not always consider the intentions of laws and riders. A survey was conducted of the basic physical education programs for men in the 21 state-supported senior institutions of higher education. Sixteen schools answered the questionnaire with the following changes noted since the last state appropriation: one school lost its requirement, one school had its requirement reduced from four to two semesters, three schools deleted bowling, two schools deleted social dance, and four schools deleted golf. Most of the above changes were made over the protest of the physical education personnel.

Some values, however, have been realized from this legislative action in that most institutions have been stimulated to evaluate their physical education offerings. Other noteworthy changes: four schools added physical fitness tests, three added classification tests, two added conditioning courses, four added wrestling, and four added weight training to their programs.

For a state to dictate that the colleges and universities may teach only calisthenics-type physical education courses is comparable to deleting all English courses except grammar. Physical conditioning is only one of the many objectives of physical education at the college level. This control is definitely infringing on the freedom of the people, the freedom of the different college and university boards, the school administrators, and the physical educators. The legislators, who are laymen, to withhold appropriated monies except for those courses they approve, are usurping the authority of the college and university administrators. Each institution, with the approval of their board, must be permitted to realize their philosophy and objectives in the manner they deem most advisable in the light of the present and future needs of its students.

In an attempt to forestall future controls each college and university must make a critical appraisal of its basic program. An effort must be made to determine if they are actually meeting the present and future needs of the students of their state. At Texas A & M University, one of the schools affected by the rider, the basic program was evaluated and considered to be a well-balanced program in keeping with its overall philosophy and objectives. One phase of the program was considered weak in that students were permitted a free choice of activities regardless of their needs. Using the AHHPER Youth Fitness Test as an instrument of measurement, Segrest and Ponthieux found that students did not choose activities which would contribute to their fitness. The following procedure was established to alleviate this weakness:

1. All students registered for required physical education are administered the following test battery:
   a. swimming test
   b. pull-ups
   c. 2-minute sit-ups
   d. standing broad jump
   e. 300-yard shuttle-run.
2. Students failing the swimming test are required to register for basic swimming.
3. Using the other four test items, students are registered according to the following standards:
   a. Those scoring three or more tests below T-40 are required to register for conditioning.
   b. Those scoring three or more tests above T-50 are given free choice of activities but are counseled to register in an activity of known carry-over value.
   c. Those that do not score in the above categories are required to register for a developmental activity.

This placement program has been in operation for only three semesters, and research on its efficiency has not been completed; however, the number of students eligible for free choice of activities have already shown an increase.

Those schools considering self-evaluation should check the feasibility of using the Kent State University Survey and the brochure "Fitness for Leadership."

INTRAMURALS

Intramural Sports and the AAHPER

H. Spurgeon Cherry
University of Florida

The AAHPER, a self-governing department of the National Education Association with a membership of approximately 43,000, is a national professional organization concerned with the broad concepts of health education, physical education, athletics, recreation, and safety education. Through periodicals and special publications; national conferences; programs sponsored by designated committees; liaison with specific government agencies and other national organizations concerned with health, physical education, recreation, sports, and safety, the AAHPER works toward such specific goals as improving teaching and working conditions, advocating adequate salaries and facilities, providing placement service, influencing national legislation, and keeping its members informed of the latest developments. The annual National Convention, one of the Association's major activities, is considered to be among the most representative gatherings in the field of education. Participants from elementary, junior high, and senior high schools; colleges; universities; and affiliated organizations assemble each spring to exchange ideas and to learn about research studies and other resources bearing on current and future orpblems facing education as a whole. The *Research Quarterly* and the *Journal of Health, Physical Education, Recreation* are valuable guides to the thinking in our area of education.

A growing interest in collegiate intramural sports and the development of many new programs in colleges and universities call for strong professional leadership. It should be said that the AAHPER is not the only national organization that has a concern for intramural activities, but there can be little doubt that the Association is in the best position with its vast membership and several divisions to give strong leadership to this new college emphasis on intramural sports.

The Division of Men's Athletics (DMA) has as one of its several sections Intramural Sports and for some time has felt a need for more emphasis in intramurals. In October 1963 the Executive Council of the DMA stated that if the Association is to serve the growing needs of intramural sports adequately, some kind of structure, stronger and more comprehensive than the one now exisiting, is needed. In February 1964 an Intramural Advisory Committee, the first such committee in the Division, held its first meeting in Washington, D. C. An operating code was approved, functions of the committee were carefullly outlined, and several recommendations were prepared for the consideration of the Association. Plans for the formation and development of intramurals in each state, both in the public and private schools and colleges, were discussed and recommendations made. The newly appointed Intramural Advisory Committee will continue to cooperate with the Intramural Sports Section in preparing the national program and also giving direction to and interpreting the results of some of the projects, which include plans for:

1. Organized pre-convention workships at annual conventions.
2. Joint projects with other sections and divisions.
3. Promotion of national intramural conferences such as the conference held in 1955 and publication of the proceedings.
4. Preparation of a selected bibliography on intramural sports.
5. Conducting state and regional clinics and workshops.

6. Service as a medium for research papers and publications.

7. Development of a much broader concept of intramural sports than has hitherto existed by utilizing various segments of the education family.

8. Promotion of progress and continuity in the work of the Intramural Section.

AAHPER sections such as outdoor education, research, dancing, and acquatics, to mention a few, have made remarkable progress during the past few years in promoting their particular areas of activity. For example, the Outdoor Education Section has carried on numerous projects and activities, which include two national conferences, more than 60 state and regional workshops and clinics in 37 states, plus many meetings. College intramural programs properly organized and supported by its potential membership, can be highly successful if it finds its professional home within the AAHPER organization.

Future Directions for Intramural Sports and the NCPEAM

Rodney J. Grambeau
University of Michigan

I attended my first meeting of the then CPEA in 1947 in Philadelphia and have attended most meetings since that time. Before the CPEA had a separate intramural section papers on intramurals were presented in the physical education section. When intramurals first became a section a meeting was devoted to the subject. In 1950 two separate section meetings were allocated to intramurals.

During the years I have been attending these meetings, I have found them to be highly stimulating and have looked forward to them eagerly both from a professional standpoint and also for the opportunity of meeting many friends and colleagues. Materials on intramurals presented at these meetings and published in the *Proceedings* have proven invaluable, and have been used in administration as well as in teaching. For many years the CPEA *Proceedings* were almost the only source for printed articles on intramurals.

In 1950 the idea for the writing and publication of a National College Touch Football Rules Book was conceived by the members of the Intramural Section of the CPEA. After considerable study of the variations of the game as played in colleges and universities in the United States, Canada, and the territories the rules were developed and printed in 1951. These rules have since gone through three revisions. To this date 10,175 copies have been sold by the Athletic Institute in cooperation with the intramural section of the NCPEAM. This project has netted the NCPEAM about $1,400 to date. Consideration is now being given to another revision combining touch-football and flag-football rules, which should result in a much wider sales.

In October 1955 the CPEA cooperated with the AAHPER and the National Association for Physical Education of College Women in sponsoring a National Conference on Intramurals, which was attended by approximately 110 men and women intramural administrators representing 79 colleges and universities from 39 states and Canada. This group developed an effective evaluation check-list, which has proven extremely valuable to many intramural directors and college administrators.

Over the years much research and many surveys have been undertaken for presentation at CPEA meetings. Surveys have been made on the national and regional level on medical and surgical care for injuries, insurance, extramurals, financing, intramural handbooks, awards, facilities, programs, human relations, budgets, offcials, just to name a few. In addition, much research has been conducted by individuals in the preparation of papers which have been delivered at CPEA meetings. The CPEA has been the center for the dissemination of college intramural information for many years. I feel very strongly that the intramural section of the NCPEAM has been making a very worthwhile contribution to the total field of physical education and specifically in the area of intramural sports and recreation and that it can continue to do so in the future.

In looking to the future there are a number of problems which we have been concerned with in the past but should be even more concerned with in the future. A major area on which I believe we should be focusing our attention and one which affects the programing of the NCPEAM in the future is that of obtaining adequate personnel to administer quality programs and to face the challenges of the future. In order to keep pace with the increasing student body in all of our institutions it is necessary that we have additional staff. Keep in mind that this is merely to keep pace. To enlarge and to improve the programs will also require additional personnel. This area is critical. I would also like to emphasize that I am not speaking of student help. Our present curricular demands on students are of such a magnitude that they do not have a great deal of extra time; but of greater importance is the fact that students are not able to maintain the necessary program continuity and make the decisions which require keen analysis and mature judgment.

We in intramurals have for many years diluted our responsibilities to the intramural program and its development by accepting, or by allowing ourseves to be assigned other responsibilities, without getting additional staff to take over our intramural administrative responsibilities. I feel strongly that we should be involved in the area of teaching and in serving on various committees within the university concerned with total university policy, but not at the expense of the intramural program. A quality program demands adequate personnel not only to administer the program but to constantly evaluate the program from every aspect and to make those changes necessary to keep the program dynamic, current, and appealing.

Concurrent with the problem of adequate staff is the problem of adequate financing. Much can be said in this area because it is vital to the development and maintenance of a quality program. I would like to suggest that inasmuch as the intramural program is a voluntary student activity it appears that the most logical method of financing, and the one which will assure a constant budget, is that of a percentage allocation of student fees. This too should be under periodic review in relation to the needs and offering of the program. I might add that I feel we have a responsibility for an intramural sports program to the faculty and staff of our various institutions but that they too should pay a fee commensurate with their program. If adequate funds are available from some other source than student fees, such as the general university budget, this would be very satisfactory.

Many schools now have a course in their physical education curriculum in the administration of intramural sports. With the bright future that is apparent for intramural programs, every physical education major should be required to have such a course. Efforts should be made through the various intramural departments and through the assistance of the NCPEAM to promote these courses in colleges that do not have them.

Three areas of intramurals which have emerged rather strongly in the past decade and appear to be continuing to grow are intramural clubs, extramural competition, and the co-recreation program. The club movement is expanding beyond the traditional intramural sports program offerings and is encompassing many outdoor activities such as sailing, horseback riding, skating and skiing. Other clubs which have emerged are karate, judo, scuba diving, and cycling. You can add to these the traditional sports clubs such as rugby, soccer, boxing, archery, lacrosse, and weightlifting clubs, to name a few. This area of clubs becomes one which may require the responsibility of one full-time staff member when you consider the coordination of facilities, financing, equipment, scheduling, and the like. The possibilities in this area are unlimited. The important thing is that this phase of the program is reaching a segment of the campus enrollment which is not reached through the traditional intramural sports program.

Associated with the club program is the problem of extramural competition. This in a way becomes a sort of intercollegiate program on a small scale. Although there are many problems here for physical educators who feel that intercollegiate athletics has a place in the educational program, extramural competition has as much value for the students involved when it is properly administered. There appears to be a need for this type of competition, and with an increasing student body the demand will continue to grow.

We are all aware of the emergence of the co-recreational program and its resultant problems and also its administrative rewards when properly handled. Suffice it to say that this is an area in which a great deal can be done. The surface has barely been scratched.

Robert H. Boyles presented a practical, factual appraisal of what the world of sport will be like in ten years or so in the December 21, 1964, issue of *Sports Illustrated.* It was very enlightening and had many implications for our future programs.

Boyles indicated that sports will continue to boom, and boom, and boom, and will play an increasingly larger role in American life. This will be brought about by increased earning power and increased leisure time. The average annual growth for the sale of sporting goods is 5.3 percent, which is greater than that of the growth of the national product.

The greatest growth in sports in the next ten years will probably come in water-based sports such as swimming, boating, skin diving, surfing, water skiing, sailing, and fishing. Outdoor winter sports such as hockey, skating, and skiing will continue to grow.

Of extreme importance is the prediction that participant sports will overshadow spectator sports in the next decade. Americans today spend ten times as much on participant sports as on spectator sports. Outdoor recreation will just about double itself by 1976 and will then double itself again by the year 2000.

The space age is upon us in the field of sports also. Examples of some of the products being developed which will have greater and greater implications in the future are:

1. An inflatable plastic cover for outdoor swimming pools. It's only the size of an outdoor tent when not inflated!

2. An unloseable golf ball with a tiny transmitter which sends out signals from the deepest rough.

3. Instant live telecast from any place on the earth.

4. Infra-red beam communication system between coach and player, hunters, fisherman, etc.

5. And a gyrocopter which will allow you to fly to a golf date 100 miles away from your back yard.

Speaking specifically to the role of the intramural section within the NCPEAM, I would like to suggest that we who are primarily concerned with intramurals take a more active part in other sections of the NCPEAM. We have more to contribute than just in intramurals. We should be represented on various committees, and we should have the responsibility for one of the general session speakers at least once every other year.

Within the section itself I would like to suggest that the programs be geared completely to the college level. I realize that I am taking exception to this year's program. However, I feel that the needs of the high school program can best be met through the AAHPER. Greater emphasis should be placed on the preparation and presentation of outstanding papers concerned with the latest developments in the area of intramurals. The practices of distributing handbooks from the various schools and presenting intramural exhibits should be continued.

In conclusion, all of the things which I have suggested here involve enlarging our perspective and scope. They represent work—work to sell our administrations on the vital part being played by the intramural program in the total education of our students. We must look to bigger things, get away from the stereotyped programs of the past, and face the future with a set of new objectives. What can you see for your program for the next ten years? What would you like to see? Can you put down on paper your philosophy, objectives, administrative plans, program plans, and evaluation plans, and will you look at them periodically and ask yourself what *you* are doing to obtain these objectives?

As we look to the future I see the need for more professional intramural administrators—men who sit with deans, vice-presidents, and presidents; who succinctly and intelligently present their program needs; who can properly orient their program in its relationship to the students, to the faculty, to the staff, and to the broad total educational picture.

The intramural section of the NCPEAM can be one of the dynamic groups in the future of our profession. As we look to expanding enrollments, to the concept of three semesters or year-around programs, and to the emergence of the junior college program, we are faced with a genuine challenge.

High School Intramural Sports

Frederick A. Barney
New Trier Township High School
Winnetka, Illinois

I would like to take a moment to talk about the direction which high school intramurals will be taking in the future. This is an easy question to answer. There is only one direction to go, and that is up. At the present time, intramural sports programs in high schools are pathetic. There are many schools who say they have intramural programs, and on paper you might see something, but in actual practice there is very little. Very few schools have an intramural director or some other person charged directly with responsibility of organizing and administering the intramural program. I am not one of those people who thinks that our high school athletic program is bad and needs drastic revision; I believe that those boys who get into our interscholastic programs derive many benefits from them. I do feel, however, that our athletic program is, in part, short-sighted. Let me make this point by example. Suppose you have a son who is in high school. He is an average student with no major problems of any kind, and as he makes out his high school program he is told by the counselor that he is not permitted to take any lab courses. The reason given for this is that he is not in the upper percentile in his class. He is not a gifted student. He is told that this type of course is reserved specifically for those who have greater ability. I think that if this happend, you would be quite angry. You might argue that your son is a late bloomer, that he will undoubtedly get through college and that he will need a lab course. You might become indignant. You might say that you pay taxes just the same as the parents of the more intelligent children. I think probably you would win this point, but when you stop to think about it, isn't this just what we have been doing in athlteics for a long time. We do not say it this way. We let anyone try out—the poor ones can come out and be neglected for 4 years and maybe they will even get something out of it, but most kids are not going to do it. They drop out of their own accord. We say they just did not want to pay the price. But I wonder if every kid wanted to pay the price we would keep them on the team? I think not.

The time has come when we must offer an athletic program for every boy and girl in high school. Not every student will take advantage of it, but at least we have to give them the opportunity, and if this means taking some of the athletic facilities which are used for practice by the same few students five nights out of the week then we are going to have to do just this.

I would like to touch for a moment upon those responsiblities which I feel belong to the high schools and other responsibilities which belong to the colleges. First of all, there are very few high schools that can do a lot in the way of planning the curriculum and the various programs within the schools. Larger schools like the one I am in have qualified administrators who have the time allotted so that they can do this. But there are not many schools like this. Most of the smaller schools actually are organized according to what other schools are doing or what is recommended by colleges. When it comes right down to it, much of our growth and enrichment not only in the extracurricular activities but in the academic fields is spawned to a large extent by research. Much of the enrichment of these various phases of high school programs has come from colleges. This is obviously true in the sciences, mathematics, literature, art, and physical education. Certainly if there is going to be any change, we need the same type of leadership in athletics. Colleges have had fine intramural programs for decades. High schools have almost nothing. Physical education majors coming out of colleges are not interested in intramurals. We have very few physical education people visiting our school who are really interested in what we are doing in intramural sports. However, they are vitally interested in the rest of the program. Almost no physical education majors display an interest in working with intramural sports. While physical education majors are required or given the opportunity to take courses in how to coach track, football, basketball, and almost any other sport, few seem to be required or indeed even given the opportunity to take a course in intramural sports. Certainly there should be a revival set up to get the point across to the physical education majors that no athletic program is complete unless it actually gives an opportunity for the majority to participate. You cannot tell me that when a small percentage of the student body is participating in athletics that the opportunity is really there.

How can the high schools help themselves in developing or expanding their intramural programs? I wish I had an answer to this one, but all my answers seem to take me back to the same place. The high school curriculum and the various facets of supporting activities are determined by the community through the school board. As far as the interscholastic athletic program is concerned, there are probably more people who are interested in this than in any other phase of the school program. The superintendent and the athletic director will certainly have a major responsibility in shaping the style, intensity, and content of this program. The booster club will have no little say in this matter; the fathers of outstanding athletes are to be reckoned with; the local sports editor has a major influence; and, certainly, interested faculty members seeking to field winning teams are going to have an impact on what type of athletic program is sponsored by this school. I am not condeming these people for what they have done because certainly many of them have encouraged wholesome athletic programs with high standards. I only register a very strong protest that something has been left out. That something is the majority.

While I certainly cannot make a recommendation about how to alleviate these problems I do feel that one way in which the high schools can help themselves is by somehow fostering an educational program through the superintendents' and principals' national associations. A campaign of some length and considerable intensity sponsored perhaps by the AAHPER and through the associations mentioned could over a period of a few years have some effect. However, I hasten to caution here that superintendents some years ago got into a bad habit, and that is that they like to keep their jobs. If this means fostering a good interscholastic program at the expense of the intramural program then they are going to do it.

In thinking over some of the things I might say today I thought back to last spring's conference sponsored by the Athletic Institute in which some 45 to 50 experts, teachers, and consultants, including Dave Matthews and myself, authored three pamphlets on intramurals for the senior high school, junior high school, and elementary school. I wondered why the Athletic Institute had sponsored such a conference. And when I asked Ted Bank, the president of the Athletic Institute why this was done and why some 15 different organizations were asked to sponsor this, he answered, "For many years I have been an advocate of greater participation in competitive sports, even to the extent of having more than one interschool competition in each sport. In other words I think it would be wonderful if every boy and girl in the United States could enjoy the thrills of competition." And with regard to why he asked various organizations to sponsor this conference he said, "Actually my hope was that they would then help in the promotion of intramural sports, not only in the schools, but in recreation departments, voluntary agencies like the YMCA, etc. Specifically, I had hoped that the National Federation of High School Athletic Associations would help push and promote intramural sports in the same way that they have promoted the expansion of the numbers of sports activities for interschool competition."

After hearing this, I contacted Cliff Fagan, who is the executive secretary of the National Federation of High School Athletic Associations and asked him some similar questions. In his letter he says, "I am certain that the percent of high schools that have good intramural programs is much smaller than we would expect." And further he stated, "The National Federation has no direct responsibility in the area of intramurals. We do encourage such programs, we give suggestions and try to motivate, but we have no jurisdiction relative to them." Without in any way directing criticism to Mr. Fagan, for whom I have the utmost respect and confidence, I must point out that here we have the one organization which undertakes the promotion of athletics in high schools almost completely ignoring intramural sports.

Gentlemen, our world is changing. High school boys are going to get out of school and work at jobs which have not yet been created. Most of these jobs are going to be sedentary positions. These boys need carry-over sports and need patterns of activity set for later years. This is something that intramural sports can do and must do.

The Responsibility of Colleges for High School Intramural Programs

David O. Matthews
University of Illinois

No college or university is an entity unto itself. Each institution of higher learning has educational obligations which are nationwide. If one believes that these obligations do exist, then one can be sure that the institutions having teacher-training programs in the field of physical education must bear some responsibility for the development of intramural programs in the public high schools.

There are a number of ways whereby university and college departments of physical education may discharge their responsibility to help the high schools establish or improve their intramural programs.

The first of these ways is to require all physical education majors or minors to enroll in a course covering the organization and administration of intramural sports. The field of intramurals is too big to be sandwiched somewhere in a course on the administration of interscholastic athletics. In fact, a person who is being trained to be a professional physical educator needs at least one semester of a concentrated unit of instruction which includes practical experience in intramural sports administration as well as a series of theory lectures. Graduates with only this minimum of training in organizing intramurals will be prepared to do any of the following: (1) set up a new program of intramurals, (2) continue the administration of a program already in existence, or (3) improve the program they inherit. Besides gaining practical knowledge, the student in such a course gains new insight into the total concept of physical education and cannot help having his philosophy of physical education broadened positively.

A second means whereby the university may assist the high schools in the area of intramurals is through the conducting of surveys to determine the status and needs of the programs. These surveys may be made by the staff members and by students, either graduate or undergraduate. Although the faculty member may be better qualified to conduct status studies and may possess a wider background for better interpretation of the material he gathers, in all probability he does not have sufficient time to do many surveys. On the other hand, graduate students searching for thesis topics can be guided into making surveys of single schools, school systems, or a selected group of schools on a state-wide level. The information they collect and summarize can then be made available to those interested. Furthermore, undergraduate students can be required, as part of the intramural course to make reports on individual school programs or phases of the programs. This would afford them the opportunity to apply the classroom theory.

The placing of practice teachers is a third method for assisting the public high schools in administering intramurals. They can either augment the existing intramural staffs or start new programs. These practice teachers should have had a background of classroom intramural theory as well as experience in administering sports in the college system. It cannot be assumed that these student teachers will be able to put into motion the forces needed to establish a complete perfect program, if such a thing exists, but they can at least organize a few noon-time sports. By so doing they may lay the foundation for the development of a permanent program. Since the beginning of any program is a critical point in the future of that program, care must be taken that close supervision is provided by the experienced intramural director of the college. His advice must be given as well as sought, and his storehouse of broad experience must be drawn upon in order to guarantee that the first impressions of intramurals received by the pupils and school administrators are favorable.

Paralleling the above suggestion of using student-teachers to start intramural programs is the idea that undergraduate members of physical education professional organizations such as Phi Epsilon Kappa can make a project out of helping a local area school operate an intramural program. Certainly the advisor of such a group has the ability to supervise such a project.

Another procedure for helping the high schools involves the use of college physical education personnel to teach extension intramural courses in cities where there are no intramural programs or where there is further need of instruction in the organizing and administration of programs. To illustrate the point, the University of Illinois, Urbana, has extension classes in a number of communities throughout Illinois. The curriculum offered by members of the physical education department includes such courses as first aid, administration of high school physical education, and community health. It would be easy to supplement these courses with one on intramurals. Graduate credit for its completion would attract teachers from elementary as well as secondary levels.

The sixth suggested method for discharging the obligation for secondary school intramurals requires the hiring of a person to be a full-time consultant in the area of intramurals. Perhaps this suggestion is too revolutionary and expensive to be considered by any but the largest of the state universities, but it is no more impractical an implementation than to have the agriculture department send out advisors to communities to help the farmers.

Another worthwhile plan of action which can be followed is the one which uses the workshop, clinic, or conference as a means of building up interest in intramurals. About 6 years ago the Ohio Association of Intramural Directors was formed. Its original purpose was to serve the intramural directors on the college level with a few high school men to be included as liaison personnel between the secondary school and the college directors. However, it was the consensus of those attending that more good could be accomplished if the organization was set up to include all directors within the state. Here, then, is an example of how one group of college people assumed the obligations they felt were theirs in regard to the high school programs in the state. Much good can come out of workshops and clinics. Many directors attend such meetings feeling that their problems are unique. Often they leave these workshops with solutions to those problems and with the feeling that most intramural directors have the same problems.

Since the principal or superintendent has to be sold on the values of intramurals, the college director should assume some of the initiative in selling them on intramurals as another means of helping the high schools build up or start programs. The university intramural director is in a good position to meet with and talk to the principals and superintendents, since these administrators often meet at universities in conferences. These people can be talked to either as individuals or as a group. The college intramural supervisor should try to make the secondary school administrators aware of what intramurals can do for their school discipline problems, for interscholastic sports headaches, and for their required physical education classes. They can be shown that a well-run noon-time intramural program can practically eliminate the lunch bour discipline cases, that a well-rounded intramural sports system can help the principal justify the overemphasized interscholastic varsity schedule, and that a varied and interesting intramural program can give greater meaning and direction to the required physical education classes.

In summary, then, I believe that colleges and universities, especially state schools training physical education teachers, have a definite responsibility for aiding in the promotion, development, and continuance of high school intramural programs. This responsibility can be partially discharged by the following methods: (1) require all physical education majors and minors to take a complete course on the organization and administration of high school intramurals, (2) have surveys made to determine the status and needs of the high school intramural programs, (3) place student teachers in the high schools to assist the director or to start a program where none exists, (4) have professional organizations such as Phi Epsilon Kappa choose a local school and run its intramural program, (5) use college faculty members to teach extension courses in intramurals, (6) hire a full-time staff member to act as an intramural consultant for the area high school, (7) hold conferences, workshops, and clinics in an effort to help directors solve their problems and improve their programs, and (8) use every means available to show the principals and superintendents the values which accrue with every intramural program.

High School Intramural Needs

John LeBar
University of Missouri at Kansas City

As far back as formal school organization goes there has been intramural play. When two boys from the same school wrestle against each other there is intramural play, or when two boys from the same school have a foot race against each other there is intramural play. This type of intramural play has been in the schools for a long time. No matter what we do boys and girls will play! They may go to the local playground and shoot baskets or to the recreation center to play table tennis—but they will play—that I am sure of. The question is how to construct a play situation which will be most conducive to the total growth and development of the individual. In my research and study of high schools this question of intramurals seems to be academic. Why is it academic? Because there is just very little intramural play, as we speak of it, at the high school level. Why does this situation occur?

1. There is no national organization directly concerned with installing or expanding high school intramurals. Some say the AAHPER is, but it is not. There are some sections related to intramurals in the national meetings, but it is very loose-knit.
2. Only since last year have guidelines been established for high school intramural programs. This was accomplished in a national meeting sponsored by the Athletic Institute.
3. There is no organization directly responsible for the organization of intramurals in high schools. Some local or district associations of health, physical education and recreation have attempted to strengthen intramural programs and organize new programs but with relatively little success.
4. Last, but not least, is interest. The intramural program is, so to speak, the step child of the high school physical education program. Intramurals are not required by the state. Therefore, the administration is not too concerned with the program. Intramurals are not as glorious and glamorous as interscholastic athletics. Consequently the teacher or coach is not too interested. In the eyes of some, intramurals are neither positive nor negative.

How Can We Correct the Situation?

1. The state organizations must emphasize intramural activities as well as required physical education and interscholastic athletics to the point of having inservice training for prospective intramural workers.
2. We must as physical educators subscribe to the philosophy that the required program is number one, intramurals number two, and interscholastic athletics number three. We say this now, but who get the facilities after school? Who gets the lion's share of money? Who gets the best suprevision? Interscholastic athletics of course. We must do more than give lip service—we must fight for time, money, space, and supervision.
3. We, the college teachers, must send our physical education major students out with great zeal and interest in organizing and administering intramural programs as well as required physical education programs and interscholastic athletics. I am sure that good intramural programs at the high school level are possible if the individual physical educator really wants to do the job.

REPORTS

The President's Report

John E. Nixon

I engaged in the following major activities on behalf of the NCPEAM in the year 1964:

1. Appointed all committee members and chairmen and secured approval of Executive Council for these appointments.

2. Served as a member of the Convention Program Committee and of the Site Selection Committee of the Association.

3. Served as NCPEAM official delegate to the Representative Assembly of the American Association for Health, Physical Education, and Recreation in Washington, D.C., in May 1964.

4. Partially completed an assignment from the Executive Council to develop a model standard hotel contract form for future NCPEAM conferences.

5. Maintained continuous communication with officers and representatives of NAPECW and NCPEAM with respect to all phases of the joint publication, *Quest*.
   a. Served as an advisory editor.
   b. Jointly organized and attended two meetings concerning *Quest* with Leona Holbrook, president of the NAPECW, and other representatives of both organizations.
      (1) The first meeting was a breakfast meeting in Washington, D.C., in May, which was also attended by Arthur Weston, NCPEAM President-Elect.
      (2) The second meeting was in Reno in October and included Dr. Fred Roby, official NCPEAM representative to, and business manager of, *Quest*.
   c. Invited Leona Holbrook, president of NAPECW, to attend the NCPEAM Executive Council meeting here in Minneapolis, January 6, 1965, to discuss *Quest* progress and problems with us.
   d. Sent an official expression of NCPEAM appreciation and congratulations to Donna Mae Miller, editor of *Quest*, for her superior performance in that capacity, when it was learned that she is resigning as editor at the end of this year.

6. As authorized and directed by the Executive Council, worked with the Professional Preparation Panel of the AAHPER on the drafts of a letter to James Conant and a statement on graduate professional preparation in physical education which was sent to Dr. Conant. NCPEAM approval was given to the letter and the statement as submitted to Dr. Conant by the professional panel. The letter is reprinted in the October 1964 NCPEAM *Newsletter*. The statement is published in the November 1964 *JOHPER*.

7. On June 5, 1964, sent an official letter to Simon McNeely, President's Council on Physical Fitness, Washington, D.C., approving the use of the name of NCPEAM in the acknowledgment statement in the Council's publication, *Fitness for Leadership, Suggestions for Colleges and Universities*. Later, at the time of publication, the Council decided not to list each organization which had approved this publication because some organizations had withheld such approval. Thus, only a "general acknowledgment statement" is in the pamphlet.

I wish to recognize the support of my dean and the administration of Stanford University for providing services, supplies, postage, and transportation required to carry out the duties of the president. It is estimated that this amounts to a subsidy of approximately $1,000 to NCPEAM. I did not expend any portion of the $50 contingency fund given me by the Association.

I am deeply indebted and wish to express my heartfelt appreciation to the officers, committee chairmen, and members who in large numbers have rendered efficient, devoted service to the Association this past year. In particular, special thanks go to Arthur Weston, Deane Richardson, and the many members who have served on program and conference planning committees to make this fine conference possible. Finally, on behalf of the Association, as well as for myself personally, appreciation is extended to our able executive secretary, David O. Matthews, for keeping the affairs of the Association on an even keel and for devotedly serving long hours for the Association. It has been an inspiring privilege to serve as president of this great and venerable Association. It is one of the highlights of my professional career, and I shall cherish it in my memory.

Statement of Receipts and Disbursements for the Fiscal Year Ended November 30, 1964

EXHIBIT A

Operating Budget Fund

Fund balance, December 1, 1963			$ 3,013.83
Receipts:			
Membership dues		$4,973.00	
Banquet fees		360.50	
Publication proceeds		474.90	
Redeposit of registration fund (See below.)		195.00	
Transfer from permanent fund (exhibit B)[1]		2,000.00	
Total receipts			8,003.40
			11,017.23
Disbursements:			
Printing newsletter and stationery		868.28	
Supplies and postage		335.65	
Stenographer's services		33.58	
Secretary-treasurer's fee		300.00	
Audit		100.00	
Affiliated organization fees		35.00	
Insurance bond		12.50	
Transfer to permanent fund (exhibit B)		300.00	
Quest magazine account[1]		2,000.00	
Telegraph		27.96	
Bank service charges		5.64	
Convention expense:			
Registration funds (See above.)	$195.00		
Hotel and banquet charges	392.90		
Honorarium	50.00	637.90	
CPEA annual proceedings publication		2,113.93	
Convention expenses—Deane Richardson		300.00	
Total disbursements			7,070.44
Fund Balance, November 30, 1964			$ 3,946.79

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[1] Payment made by certified check directly from permanent fund.

Bank Reconciliation

Balance per bank statement	$ 3,952.42
Less outstanding check #163	5.63
Fund balance, November 30, 1964	$ 3,946.79

Summary of Funds on Hand
November 30, 1964

Checking account—The Champaign National Bank, Champaign, Illinois	$ 3,946.79

EXHIBIT B
Permanent Fund

Fund balance, December 1, 1963		$2,842.35
Additions:		
Transfer from operating budget fund (exhibit A)	$300.00	
Interest earned during year	80.82	
Total Additions		380.82
		3,223.17
Deduction—transfer to operating budget fund (for *Quest* magazine)		2,000.00
Fund balance, November 30, 1964		$1,223.17

Summary of Funds on Hand
November 30, 1964

Account #2614—Northern Valley Savings and Loan Association, Tenafly, New Jersey	$1,223.17

Financial Report on Quest Account

Receipts:		
NCPEAM	$2,000.00	2/28/64
Quest sales	1,116.00	2/28/64
	8.00	3/11/64
	55.80	4/27/64
	12.00	5/ 8/64
	19.60	5/20/64
	56.60	6/ 2/64
	14.00	6/24/64
	13.80	7/16/64
	16.00	8/10/64
	39.60	10/20/64
	62.00	11/12/64
	35.40	12/11/64
	$2,448.80	

Disbursements:

Mailco	$7.50	4/ 6/64
U. of A. Multilithing Bureau	2,175.00	5/20/64
Postage	5.00	6/24/64
Mailco	7.50	11/24/64
3rd Class Mailing	150.00	12/11/64
Service Charges	2.32	
	$2,347.32	

Fund balance	$101.48

Summary of Funds on Hand

Account—Bank of Tucson, Tucson, Arizona	$101.48

Submitted by
Fred Roby
NCPEAM Representative to *Quest*

Proposed Operating Budget, Fiscal Year 1965

Reserve fund carried over December 1, 1964	$3,946.79
Receipts:	
Membership dues (800 @ $10)	$8,000.00
Publication sales	500.00
Total receipts	$12,446.79
Expenditures:	
Proceedings	$3,737.00
Annual meeting	600.00
General operations	2,200.00
Quest	1,500.00
Newsletter	500.00
Services	300.00
Investment	300.00
Contingency	100.00
Total Expenditures	$9,237.00

Approved by Finance Committee
NCPEAM, January 8, 1965
E. J. Holter
Chairman

Submitted by
David O. Matthews
Secretary-Treasurer

Minutes, Executive Council

EXECUTIVE COUNCIL MEETING
May 10, 1964
Washington, D. C.

Present: Nixon, Weston, Matthews, Havel, Kovacic (2 votes).

1. Meeting was called to order at 3:10.
2. Minutes of the previous meeting were read and approved as read.
3. Secretary-treasurer's report was given:

Financial Statement as of May 1, 1964

Income December 1—May 1	$7,149.98	(bank balance plus income)
Expenditures December 1—May 1	4,245.52	
	$2,904.46	

Financial statement was received.

4. Membership report by the secretary-treasurer was given:

December 1—May 1:

New Members	141
Renewals	543
Total	684

Membership report was received.

5. The secretary-treasurer reported that the revision of the operating code has been completed and copies would be available in September. In the meantime individual section codes have been sent to section chairmen, and committee chairmen have received materials pertinent to the operation of their committees.

6. President Nixon presented the list of committees, their chairmen, and their members. The list was approved.

7. The question as to whether or not the Western College Men's Physical Education Society's president should be a voting member of the Executive Council of the NCPEAM was raised. It was moved that the question be put on the table. Motion carried.

President Nixon reported that he had been working on a model hotel contract form and had collected numerous samples of forms and suggestions about contracts.

9. The report on *Quest* from Fred Roby was read by Nixon. The three items that received prominent attention were those pertaining to the continuance of *Quest* on a subsidized basis, to the option of alternating editors (man and woman), and to having one bank account. Monograph I—2,793 copies distributed, and Monograph II—2,533 copies distributed. President Nixon was to arrange a meeting with representatives of NAPECW to talk about *Quest* and problems relative to its publication. These problems are mainly financial in nature. A meeting was to be held on May 11, 1964, during the AAHPER Convention. Discussion followed President Nixon's reading of Roby's letter. The following items were discussed: (1) the advisability of contributing additional funds to subsidize the monograph, (2) the quality, nature, and need of *Quest*, (3) the making of a joint decision on the future of *Quest* after the fiscal year 1963-64, (4) the presentation of an evaluation of the project at the Minneapolis meeting in January 1965, and (5) the meaning of the words "joint project."

10. President-Elect Weston reported that plans are moving along favorably and on schedule for the program at Minneapolis. Details of the planning were enumerated.

11. Richardson presented the names of the committee chairmen as follows:

Arrangements	Pat Mueller
Hospitality	Bob McAdam
Publicity	Rich Donnelly
Registration	Joe Nowotny

12. Richardson stated that the Hotel Radisson offers the best accommodations for the conference. The hotel contract was presented for consideration. Moved by Richardson

and seconded by Havel that the Raddison Hotel be selected as conference headquarters, and that the NCPEAM—Hotel Radisson contract be approved. Motion carried.

13. The president's reception was talked about at length. The consenus of the Council was that the time normally given to the reception would be listed as free time, with no reception as has been held in the past.

14. President-Elect Weston raised the question as to what types of speakers should be obtained for the conference. President Nixon informed him that the speakers and the topics were the concern of the president-elect. The program format was discussed further and the following ideas were suggested: (1) A follow up on Henry's speech in Dallas should be made to study the implications of the ideas he expressed; (2) some of the foremost social problems related to physical education should be discussed; and (3) brainstorming sessions in the various sections should be a part of the section programs.

15. The Time and Site Committee report submitted by James Reid was read. It was the committee's recommendation that the next conference be held in the northeast section of the country and that steps be taken to locate a conference manager. The report was received. It was moved by Matthews and seconded by Kovacic that the committee's recommendations be implemented. Motion was carried.

16. A request submitted by James Long regarding subsidization for the joint meeting with the AAHPER and the NCAA was read. The Council reaffirmed the policy that travel funds will not be allotted to anyone. The Joint Committee report was received.

17. Havel made a report on the Conant Committee study:
   a. Art Esslinger, Leona Holbrook, Anna Espenschade, and Franklin Henry were contacted to draft a statement.
   b. Action taken and suggested action:
      (1) George Anderson of AAHPER staff wrote to Conant.
      (2) George Anderson contacted 42 directors or deans of physical education professional programs in colleges to get their deans or presidents to reply to Conant's allegations.
      (3) Let the statement by the persons listed in "a" above stand.
      (4) Have a separate statement be drafted by the NCPEAM.
      (5) Have the NCPEAM represented on the AAHPER committee.

It was moved by Havel that the NCPEAM accept the statement of the AAHPER and keep in touch with the progress of the group through Nixon. Nixon will represent the NCPEAM in the preparation of the draft of the official statement to Dr. Conant. Motion seconded by Weston. Motion carried.

18. Meeting adjourned.

Respectfully submitted,
David O. Matthews
Secretary-Treasurer

EXECUTIVE COUNCIL MEETING
January 6, 1965
Minneapolis, Minnesota

Present: Nixon, Weston, Matthews, Havel, Buchanan, Segre, Livingston, Kovacic.
Absent: Bookwalter.

1. Meeting was called to order at 7:00 P.M.

2. Minutes of the last meeting on May 10, 1964, were read and approved as read.

3. President-Elect Weston gave an overview of the planning which had taken place in preparing for the convention. He congratulated all persons involved for meeting all of the program planning deadlines.

4. Deane Richardson, Convention Manager, reported on convention progress.

5. Fred Roby summarized his work as NCPEAM representative to *Quest*. A letter from E. C. Davis explaining his part as associate-editor of *Quest* was distributed to Council members.

6. Leona Holbrook, President of NAPECW, discussed *Quest* from the point of view of the NAPECW. She reviewed the history of the concept and development of the monograph.

The women's organization wishes to continue the publication jointly with NCPEAM if the men's group so desires. Dr. Holbrook expressed the NAPECW Board's viewpoint that NCPEAM-NAPECW could and should support *Quest* on an equitable (pro rata) basis according to the size of paid memberships in each organization. Questions were raised concerning the financing of the publication and content if the women's organization took on sole responsibility for publishing the monograph. Dr. Holbrook stated that the editorship could be shared. Donna Mae Miller and E. C. Davis have resigned from their editorships. NCPEAM could appoint a joint editor if the project were equally (60-40) financed and an associate editor if supported less by NCPEAM. Dr. Holbrook was authorized by the NAPECW Board of Directors to make binding agreements for the NAPECW.

7. Matthews gave the treasurer's report. It was approved for reading by the Finance Committee.

8. Matthews presented the proposed budget. It was approved for reading and approved by the Finance Committee.

9. Further discussion of *Quest* was undertaken in light of the budget and treasurer's reports.

10. Moved by Havel that the present Executive Council support in principle the further joint publication of *Quest*. Motion seconded by Weston. Unanimous vote in favor of the motion.

11. Moved by Buchanan that the annual dues for NCPEAM be raised to $7. Seconded by Weston. Unanimously carried. Motion referred to Finance Committee for approval.

12. Moved by Buchanan that an agreement in principle be reached with NAPECW that NCPEAM pay the same amount per issue as does the NAPECW dependent upon membership. This motion is to be worked out for formal presentation to the Executive Council.

13. Roby moved that E. C. Davis be asked to assume the editorship of *Quest* for the NCPEAM. The motion passed unanimously.

14. Moved by Weston that there be a senior editor and a woman associate editor to be appointed, with each serving 2 years. The associate editor would automatically move into the editorship at the end of 2 years. Seconded by Segrest. Motion unanimously passed.

15. Moved by Roby that E. C. Davis be approached to serve as senior editor. Seconded by Buchanan. Motion passed.

16. Meeting adjourned at 10:30 P.M.

Respectfully submitted,
David O. Matthews
Secretary-Treasurer

EXECUTIVE COUNCIL MEETING

January 7, 1965
Minneapolis, Minnesota

Present: Nixon, Weston, Havel, Buchanan, Segrest, Livingston, Kovacic, Moore.
Absent: Matthews (Moore acted as secretary pro-tem).

1. Meeting was called to order at 8:00 A.M.

2. Roby as chairman of the Ad Hoc Committee to formulate a motion regarding the further publication of *Quest* presented the following motion for approval: "It is moved that the NCPEAM join NAPECW in the financial support of *Quest*. This responsibility will be based on the ratio of membership in each organization as recorded at the end of the calendar year. Financial assessments will be determined after receipts from sales have been deducted from the total cost of publication and distributions." Kovacic moved the motion be approved as read. Seconded by Weston. Motion carried unanimously.

3. Bookwalter presented a report on his work as chairman of the Nominations Committee.

4. Reid made a report about the efforts of the Time and Site Committee. He recommended that the Time and Site Committee operate on a 2-year basis in order to keep 2 years ahead on the site and time of the annual meetings. The Council voted to accept the invitation of Temple University to host the next meeting, December 28, 29, 30, 1965, and the invitation of San Diego State to host the meeting in December 1966 or January

1967. The latter dates would be decided by a total membership vote.

5. Nixon gave the following report for discussion: The third National Conference on Athletic Administration in Colleges and Universities is to be held in Washington, D. C., June 16-18, 1965. A request has been made for the NCPEAM to contribute $300 for support of the conference. The NCPEAM has contributed in the past but not that amount. Discussion was tabled until Matthews was present at the next Executive Council Meeting.

6. Nixon read the following report from E. B. Scott: "It is recommended that (1) the publicity about NCPEAM of the 'flyer-type' be continued, (2) the information-type of brochure, which was started, be completed, and (3) a definite budget be established so that the Public Relations Committee could function more effectively." Havel moved that the report be received but no action be taken contrary to established policy regarding budgets. Seconded by Nixon. Motion carried.

7. Nixon reported that Locke was being reappointed to the chairmanship of the Historical Records Committee. Two members from this committee are to help him.

8. Havel reported that the Conant Committee had discharged its function, and he asked that the committee be dissolved. Havel moved that the NCPEAM endorse the action of Nixon, who acted as the representative of NCPEAM in the development of the document prepared in answer to Conant's criticism. Seconded by Livingston. Motion carried.

9. Weston, NCPEAM representative to the International Council on HPER, gave a report on the conclusions of the Council meeting in Europe.

10. Nixon suggested that the operations code be revised to take care of resignations of section chairmen or other officers. This means that the Constitution Committee would have to prepare an amendment for the next annual meeting in Philadelphia.

11. Old business:

Matthews is requested to investigate the possibility of having the NCPEAM become a corporation.

Nixon reported that the development of a standard hotel contract had not been completed.

12. New business:

Livingston moved, after a discussion on the recruitment of members from junior colleges, that the president-elect and the Membership Committee contact community-college and junior-college faculty organizations in order to encourage faculty members to become members of the NCPEAM. Seconded by Havel. Motion carried.

It was suggested that the NCPEAM develop a federal legislation project for the purpose of legislative interpretation and lobbying. The contributions of the NCPEAM and individual institutions to the implementation of the Economic Opportunity Act of 1964, the Peace Corps, and the Higher Education Facilities Act as well as any relevant legislation as it is enacted in subsequent years should be determined. Livingston moved that the President contact the AAHPER to strengthen the contributions of the NCPEAM in the field of legislation. He is authorized to offer the services of the NCPEAM where usable. Seconded by Buchanan. Motion carried.

Nixon stated that Weston can appoint members from the NCPEAM to assist in this project.

The Research Committee was to be assigned the job of interpreting physical education research to private foundations and governmental agencies in order to improve the climate for the granting of more and larger contracts for research in physical education.

Five resolutions from the Resolutions Committee were reviewed. Husman was asked to present three of them to the membership in the business meeting.

Weston was to arrange with George Anderson of AAHPER for a 1½-hour meeting of the NCPEAM Executive Council at the Dallas AAHPER meeting.

13. Meeting adjourned at 10:15 A.M.

Respectfully submitted,
A. C. Moore
Secretary pro tem

EXECUTIVE COUNCIL MEETING

January 9, 1965
Minneapolis, Minnesota

Present: Weston, Donnelly, Nixon, Matthews, Moore, Ryan, Buchanan, Asprey, Hixson, Havel.

Absent: Clausen.

1. Meeting called to order by President Weston at 7:00 A.M.

2. Minutes of previous meeting were read by Matthews. Minutes approved as read and corrected.

3. Roby briefed the Council on the history of *Quest*. Present status is that it will cost NCPEAM about $1,500 annually to supply copies of the monograph to its paid-up members. He suggested that the following steps be taken: (1) Appoint an associate editor since E. C. Davis declined the editorship; (2) change publishers; (3) discuss the appointment of a business and assistant business manager; (4) discuss with NAPECW the following: (a) editorial policy, (b) exact method of financial mechanics, (c) complimentary copies, (d) advertising, and (e) when new members are to get copies of *Quest*.

4. Weston asked for an explanation of dues increase and when it would go into effect. It was stated by Nixon that the dues raise from $5 to $10 is a change in the Constitution and is effective immediately. Matthews was instructed to inform members of the increase by special letter.

5. James Long, NCPEAM representative to the Joint Committee of AAHPER-NCAA-NCPEAM, sent by mail a letter to Nixon requesting a $300 contribution for expenses to be incurred by the Joint Committee at its third annual meeting. Nixon explained the background of past conferences. Nixon moved that $50 be allocated to the joint conference. Seconded by Hixson. Motion carried.

6. Moved by Matthews that Lysle Butler give a résumé of the work of the Joint Committee of AAHPER-NCAA-NCPEAM with a budget breakdown on funds expended. Seconded by Nixon. Motion carried.

7. Donnelly reminded the section chairmen and section chairmen-elect that they are expected to meet all program planning deadlines. He outlined nominations responsibilities of the chairmen. A review of the program planning and rotation of section meetings was presented.

8. Nixon discussed the progress made on a standard hotel contract form. He submitted a partially completed form for examination by Council members. Moved by Nixon and seconded by Hixson that the Executive Council appoint a person to complete the form. Richardson agreed to finish the job.

9. Buchanan reported that a check for $766.75 from the Athletic Institute was received by Rodney Grambeau for the sale of copies of the *Official National Touch Football Rules*. This rules booklet was produced by the Intramural Section of the NCPEAM in 1951. It was revised in 1955 and in 1958. Grambeau, as editor, requests permission from the Executive Council to make a further revision to include the rules of flag football. Permission was granted. To date approximately 11,000 copies have been sold for an income of $1,400 for the NCPEAM. From September 16, 1963, to December 31, 1964, there were 3,175 copies sold. Grambeau requested that the booklet be publicized in the *Proceedings* and in the *Newsletter* and that income from the sales be earmarked for special projects carried on by the Intramural Section.

It was moved by Ryan that the report be received. Seconded by Asprey. Motion carried. Donnelly stated that it would be an ill-advised precedent to earmark special funds for section projects but that it is a valid request from any section to ask for funds for special projects.

Nixon moved to accept the check from the Athletic Institute and to send letters to Ted Bank and Rod Grambeau for the sponsorship and work done on the project. Seconded by Moore. Motion carried.

10. Meeting adjourned at 8:45 A.M.

Respectfully submitted,
David O. Matthews
Secretary-Treasurer

Minutes, Association Business Meetings

FIRST GENERAL SESSION
January 7, 1965
Minneapolis, Minnesota

1. Meeting was called to order by President Nixon at 3:45 P.M. The required quorum was met by an attendance of 140 members.

2. President Nixon introduced Dr. Leona Holbrook, President of the NAPECW, who brought greetings from her association. She discussed the problems of publishing *Quest* by outlining the history of *Quest*, its present status, and its future development.

3. Donnelly introduced the keynote speaker, Dr. Robert J. Keller, Dean of the College of Education at the University of Minnesota.

4. The business meeting was called to order at 4:45 P.M.

5. Announcements were made by Richardson and President Nixon. The registration count was at 195, later to increase to a final total of 213.

6. The President's Report was read by President Nixon. Report was received.

7. Roby made a report on *Quest*. Support of the Executive Council in principle to continue *Quest* was moved. Motion was carried. Nixon discussed the editorship. E. C. Davis was asked in a telephone conversation to be editor but his duties forced him to decline the invitation.

8. Blesh moved that NCPEAM support the further publication of *Quest*. Seconded by Husman. A motion was made to table the motion by Blesh. Motion seconded by Malan. Motion carried.

9. The secretary-treasurer's report was given by Matthews. The report was approved.

10. Holter gave the Finance Committee's proposed budget for 1965. Report was to be reworked.

11. Holter moved that dues be raised from $5 to $7. Seconded by Richardson. Motion was amended to raise the dues for 1965 to $10 and to limit the discussion to 10 minutes by Kovacic. Seconded by Flath. Motion carried by all but four votes.

12. Meeting adjourned at 5:55 P.M.

Respectfully submitted,
David O. Matthews
Secretary-Treasurer

SECOND GENERAL SESSION
January 8, 1965
Minneapolis, Minnesota

1. Meeting was called to order at 10:55 A.M.

2. President Nixon asked the interpreter from the U. S. State Department to introduce the visitors from Columbia, South America.

3. Holter presented the report of the Finance Committee on the proposed budget for 1965. This budget had been reworked according to the request of President Nixon. The report was received and approved.

4. Bookwalter presented the report of the Nominations Committee. Report accepted. No nominations from the floor. Nominees for president-elect were Richard J. Donnelly and Charles Kovacic. Nominees for member-at-large were Russ Cutler and Richard Havel. Nominee for secretary-treasurer was David Matthews.

Results of election:

President-Elect	Richard Donnelly
Secretary-Treasurer	David O. Matthews
Member-at-Large	Richard Havel

5. Rickert presented the report of the Membership Committee. Report was received. Honorary memberships were voted for J. Shober Barr, A. Watt Hobt, John O. Jones, Wal-

ter S. Knox, J. Fred Martin, Harry W. Sampson, and George T. Stafford according to procedures given in the constitution.

6. No report from the Policies Committee.

7. Roby reported on the Research Committee. Report received.

8. Burris Husman reported on the work of the Resolutions Committee. Three resolutions were presented and voted upon for acceptance. All resolutions were accepted.

9. Reid reported for the Site and Time Committee. Report received.
Moved that the next (1965) convention be held in Philadelphia on December 28-29-30, 1965. Seconded and passed.
Moved that a mail ballot be held on whether to have the 1966 convention in December 1966 or January 1967. Motion passed.
Moved that the convention following that in Philadelphia in 1965 be held in San Diego. Motion seconded and passed.

10. Masely reported on the Construction and Equipment Committee. Report received.

11. Havel reported on the Conant Committee. Report received. It was recommended that the Committee be dissolved.

12. Hixson reported on Educational Television Committee. Report received.

13. No report from the Constitution Committee.

14. Weston reported on the Convention Program Committee. Report received.

15. No report from Foreign Relations Program.

16. Locke reported on the Historical Records Committee. Report received.

17. Fraleigh reported on Necrology Committee. Report received.

18. No report on Public Relations Committee.

19. Meeting adjourned at 12:05 P.M.

Respectfully submitted,
David O. Matthews
Secretary-Treasurer

STANDING COMMITTEES

Convention Manager's Report

When the Executive Council approved the recommendation of the Time and Site Committee that the January 1965 NCPEAM meeting should be located in the north central zone, Rich Donnelly, Director of the School of Physical Education at the University of Minnesota, was asked if his faculty could assume the responsibility for running the Conference. He pledged the support of the men's faculty, and thus Minneapolis was selected as the site for the annual meeting.

The convention sub-committee chairmen selected were: Richard J. Donnelly, Publicity; Robert McAdam, Hospitality; Clarence Mueller, Arrangements; Joseph Nowotny, Registration; Maurice Ostrander, Breakfast and Luncheon; Deane Richardson, Convention Manager.

The first priority was the selection of a hotel. The Convention Bureau of the Chamber of Commerce was most helpful and cooperative. Criteria for the selection included location, size, price, adequacy of meeting rooms, and cooperation of the management. The Radisson Hotel best met the Association needs and thus was selected. It was located in the heart of the city, and it was a hotel of medium size. If a hotel were too large, it would be possible to book another large convention at the same time and overwhelm the NCPEAM Conference. Although there was another convention at the hotel at the same time as the NCPEAM, its size in no way limited the activities or meetings of our Association. The price was competitive, with single rooms renting for $9.50 and double rooms for $11.50. It is interesting to note that a slightly better price could have been obtained after Christmas as the pre-New Year week is considered to be a slack season. The meeting rooms were close together and quite adequate. The management was most cooperative throughout our association with them. The written offer by the Radisson Hotel sales manager was sent to President John Nixon for action.

During the spring of 1964, the committee chairmen met weekly to determine the scope of the work, the priorities, the overlap of cooperation needed among the committees, and the timetable needed to accomplish the task at hand. The seating capacity and the room numbers for the meetings were sent to President-Elect Arthur Weston, so that he could make room assignments for each section meeting.

Publicity: The Publicity Committee worked with the Hospitality Committee to determine what information should be sent to each member. In November a letter with publicity information, hotel reservation cards, and brochures was sent to 1,000 NCPEAM members. One of the reasons the Time and Site Committee recommended rotating the annual meeting was to stimulate membership and attendance from the local area; so a special effort was made to invite faculty members from the colleges and universities from Minnesota and neighboring states. Letters of invitation were sent to Men's Physical Education Directors of all colleges and universities in the AAHPER midwest and central districts, inviting men faculty members to attend. In December the local sports editors, TV program directors, and radio sportscasters were contacted regarding publicity for the annual meeting.

Hospitality: Information concerning tickets for special events scheduled at the time of the annual meeting was distributed by the Publicity Committee. The Director of Intercollegiate Athletics, Marsh Ryman, was approached to see if a home hockey game could be scheduled for Friday evening of the conference, which was declared an open night. The hockey game, at which the NCPEAM members were guests of the University of Minnesota, was preceded by handball tournament.

A University station wagon was rented for official use at the Conference. An hourly run to the airport was scheduled for incoming and outgoing traffic. The wagon was driven by University of Minnesota graduate assistants. Special requests for transportation to view the facilities at the University of Minnesota and the tartan track at Macalester College were accommodated to the extent of providing transportation. The chairman of the Hospitality Committe was able to provide for each member a small portfolio with the compliments of the Wilson Sporting Goods Company.

Registration: It was decided that a different type of name tags would be tried, and from all indications this type proved to be successful. New members were identified by a green name tag, thereby making it possible for older members to welcome them to their first meeting. The University of Minnesota faculty members working at the conference were provided with an identifying host badge for the convenience of members having questions concerning the conference and the Minneapolis area. The Chamber of Commerce was most cooperative in providing two women for registration. The registration desk was so arranged to prevent a log-jam during the registration procedure. A secretary, typewriter, dittoes, and ditto machine were provided for the convenience of the members. A locator file was made for the convenience of the members, and there was enough manpower at the table to handle almost any request made by the members.

Breakfast and Luncheon: Breakfast and luncheon tickets were sold at the registration desk on Thursday, at the Thursday section meetings, and at the first general session. Both the breakfast and the luncheon were extremely well attended.

Arrangements: A questionnaire was devised and sent to all section chairmen asking for the types of audio-visual equipment that might be needed for their presentations. This equipment was rented from the University of Minnesota, and a union projectionist was employed. Teaching assistants were used to assist when more than one machine was needed at a particular time. One teaching assistant was assigned to each meeting to care for the needs of the chairman or the person presenting the program.

There were 213 registrations at the conference. The expectation was for 180 conferees because the location was in a periphery area. The large number attending is a tribute to President-Elect Arthur Weston and those responsible for the program.

It is recommended that a closely knit group such as a department take the responsibility for running a conference. More cooperation and coordination is thus available, meeting times can be scheduled, and problems can be forseen and thrashed out ahead of time. This arrangement not only makes it easier on the conference manager but also on the president-elect, the section chairmen, and the president.

The convention manager is deeply indebted to the chairmen of the sub-committees for their long hours of faithful service to the Association. In behalf on the entire Committee, may I say that it has indeed been a pleasure for the faculty members at the University of Minnesota to serve the Association as host for the 1965 NCPEAM annual meeting.

Respectfully submitted,
Deane E. Richardson
Conference Manager

Finance Committee

The Committee has inspected the financial report of the secretary-treasurer as prepared by the firm of Peer-Hunt-Curzon, Certified Public Accountants, and has approved the report for presentation to the membership for final acceptance.

The Committee has inspected the proposed budget for 1965 and has approved it for presentation to the membership for final acceptance.

Respectfully submitted,
F. J. Holter
Chairman

Historical Records Committee

An author index for articles that have appeared in the annual *Proceedings* of the NCPEAM, 1940-1963, was compiled by Bruce Foglia. A copy of this index was included in the 1964 *Proceedings*. A subject index, in preparation, should be completed for publication in 1965. The committee plans to recognize, revaluate, and catalogue the complete body of materials presently in the NCPEAM archives. A detailed memorandum concerning this process and other matters of committee procedure was transmitted to the president of the Association. This included an assessment of the present status of the archives. After appropriate consultations it is intended that a number of adjustments will be made in regard to the acquisition, retention, and organization of the Association's historical records.

Respectfully submitted,
Lawrence F. Locke
Chairman

Membership Committee

The activity of the Membership Committee consisted primarily of recruitment of new members and reinstatement of delinquent members. The members of the Committee assumed the responsibility for recruitment in several states within the AAHPER districts and in Canada and Puerto Rico. The Committee sent each association member a letter and a follow-up post card requesting assistance in the enrollment of new members. This work resulted in the enlistment of 178 new members.

The annual meeting of the Committee on January 7, 1965, was unofficial due to lack of quorum.

Respectfully submitted,
Lewis J. Rickert
Chairman

Necrology Committee

Letters to contact members in 48 states, New Zealand, England, Canada, Puerto Rico, and Nigeria were sent on September 16, 1964, requesting help in carrying out the responsibilities of the Necrology Committee. Additionally, a letter to Marie Garrity, Necrology Committee Chairman for AAHPER, was dispatched asking for her assistance. These contacts revealed no names of members deceased in 1964. However, through our Secretary-Treasurer, Dave Matthews, two names were obtained.

As of this writing, Roy Larson has been contacted for assistance in securing a memorial statement. Unfortunately, Mr. Larson has changed colleges and was unable to prepare a memorial statement on Mr. Prettyman. Max Weber of Hamilton College has been sent a letter requesting assistance in preparing the memorial statement. It is hoped that such a memorial statement will be available for the convention in Minneapolis.

Respectfully submitted,
Warren P. Fraleigh
Chairman

GEORGE E. GAUTHIER (1890-1964)

George E. Gauthier, Professor of Physical Education and Athletic Director Emeritus, died on August 12, 1964, in Blind River, Ontario, Canada. He is survived by his widow, Mrs. Ruth Gauthier, and a son, Richard D.

Mr. Gauthier was born February 3, 1890, in Algoma Mills, Ontario, Canada. He received his B.S. degree from Michigan State University in 1914. He served 6 years as assistant athletic director and 1 year as football coach at Michigan State before coming to Ohio Wesleyan in 1921 as football coach and athletic director. He served in both capacities, as well as chairman of department and track coach, until 1947, when he retired as football coach. He retired from all duties in 1955 and became Professor Emeritus of Physical Education at that time.

Anyone who ever met the "Little Giant," as he was affectionately known, could never forget him. He was blessed with a dynamic personality, boundless energy, and great love for his fellow man. His magnetic personality drew people to him and he was able to transmit to them his love for life. His enthusiasm for his work brought out the best in those with whom he worked. His athletic teams reflected his own dynamic image and the Gauthier years at Ohio Wesleyan have often been called the "Golden Era of Bishop Athletics." Coach Gauthier's interest in the total development of *all* students is manifest in an excellent program of physical education, including class work, intramurals, and intercollegiate athletics, which stands today at Ohio Wesleyan as a tribute to him.

He found time to give his talents to many professional organizations. George was active in the National College Physical Education Association for Men, the American Association for Health, Physical Education, and Recreation, the National Collegiate Athletic Association, and the Ohio Athletic Conference. He was also very active in his community through his interest in Kiwanis, Masons, Boy Scouts, and Community Chest. He was very active in his church, St. Peter's, where he served as vestryman.

Coach Gauthier's talents were aptly recognized through many honors which he received. He was elected to the Helms Foundation Football Hall of Fame; he was made a charter member of the Ohio Wesleyan Athletic Hall of Fame; he was voted Delaware's Citizen of the Year in 1954, and his name will be ever in front of the generations of athletes to come in Delaware since the new high school athletic field was named Gauthier Field in his honor.

The great "Little Giant," whom so many of us knew and loved as a human dynamo, has passed on, but he has left himself indelibly imprinted upon Ohio Wesleyan and the physical education profession. As his successor, Robert M. Strimer, so appropriately quoted Shakespeare in his faculty memorial to George Gauthier: "He was a man, take him for all in all; I shall not look upon his like agani."

ALBERT IRA PRETTYMAN (1883-1963)

President, CPEA, 1930

The death of Albert Ira Prettyman on May 24, 1963, evokes our tribute to a resolute and dedicated former colleague.

For 29 years before his resignation in March of 1946, Albert Ira Prettyman was the forceful Director of Athletics at Hamilton College. His vision and tenacity made him a successful proponent of a professional status for the members of the Department of Physical Education. His determination brought the inclusion of physical education for all students for four years within the required curriculum. Although at different periods he coached various sports, his overriding concern centered in ice hockey. Within his first year at Hamilton he began to organize a hockey team which soon compiled an extraordinary series of victories; and by 1921-22 he had acquired in the Sage Building one of the first enclosed ice rinks on an American college campus. Similarly he fostered the construction of a campus golf course—again one of the first such courses on a college campus. Having secured financial backing, he founded the College Store with the intent that its profits might help directly to pay for the athletic program, as indeed they did until the mid-thirties. He was instrumental in designing and acquiring the new gymnasium, the cornerstone of which was laid in 1938.

Among his many interests, ice hockey stood paramount. Often in transforming the novice into a proficient player, the severe taskmaster retained the affectionate devotion of his protegé. From College Hill his enthusiasm overflowed to the village of Clinton where he promoted hockey and established an outdoor rink. His reputation as a specialist in this sport extended across the nation. For a score of years he was chairman of the N.C.A.A. Committee on Ice Hockey Rules, and he served as the coach of the United States Hockey Team in the 1936 Olympic Games. In 1950 the Ice Hockey Guide for the first time dedicated its annual to an individual in honoring Albert Ira Prettyman as "the man who has done more for amateur hockey over nearly thirty years than any other one individual."

In many undergraduates who came under his tutelage he inspired a zealous devotion rarely matched by that accorded to any other faculty member. His home, graced by his warm-hearted wife, formed a happy rendezvous for students and alumni alike. To his faculty colleagues, his resolute promotion of a sound program for healthful exercise under academic control and his forthrightness in expressing deeply felt opinions marked him as a man of prinieple. His contributions to Hamilton College in physical plant, in the status of sports, and in the stimulation of alumni loyalty form a lasting memorial to Albert Ira Prettyman.

Although relatively few of his colleagues now remain to express their personal regard for him, the current Hamilton College faculty records in its minutes a resolution of appreciation for the numerous contributions to that college made by Albert Ira Prettyman.

Nominations Committee

The NCPEAM *Proceedings* for the past 10 years were gleaned for the activities of the members. Sixty of the most active, including past presidents and secretaries, were polled for their suggestions of people for officers. The top 8 for president-elect and the top 12 for member-at-large were sent to the Nominations Committee members for their suggestions and guidance. From the suggestions of the members of the Nominations Committee, the top 4 in each category (president-elect and member-at-large) were sent to the members of the Nominations Committee, and permission was obtained to nominate only David Matthews for secretary-treasurer and the top two of the others. The Nominations Committee has complied with the constitutional requirements of the Association as well as the operating code of the Committee in seeking the candidates for the offices of president-elect, council member-at-large, and the secretary-treasurer for 1965. Each candidate has agreed to serve if elected.

We recommend to the Association the following candidates for president-elect:

Richard E. Donnelly, University of Minnesota
Charles Kovacic, University of California, Davis

We recommend to the Association the following candidate for secretary-treasurer:

David Matthews, University of Illinois

We recommend to the Association the following candidates for member-at-large:

R. K. Cutler, University of Washington
R. C. Havel, Wayne State University

Respectfully submitted,
Karl W. Bookwalter
Chairman

Resolutions Committee

WHEREAS, this has been a highly successful meeting, and

WHEREAS, provision for transportation, boarding, housing, and recreation of the members of the Association was effectively planned and carried out,

BE IT RESOLVED that the members of the NCPEAM extend their sincere appreciation and thanks to:

The Chamber of Commerce of the City of Minneapolis, Minnesota

The management and employees of the Radisson Hotel, Minneapolis, Minnesota

The Convention Manager, Deane Richardson, his committee, and faculty and officials of the University of Minnesota

The Program Chairman, officers, program participants of the Association, and all others who cooperated to make this meeting a success.

WHEREAS, the National College Physical Education Association for Women has initiated the publication *Quest* and invited the cooperation of NCPEAM therein and

WHEREAS, the editing and publishing jobs for this excellent publication have been done by Donna Mae Miller and E. C. Davis, and whereas Fred Roby has been the guiding force for NCPEAM,

BE IT RESOLVED that this Association express appreciation to the officers of the National Association of Physical Education for College Women, the officers of this association, Donna Mae Miller, E. C. Davis, and Fred Roby for their work in behalf of this publication.

WHEREAS, the American Association for Health, Physical Education, and Recreation has shown an interest in federal legislation aimed at improving supervision of programs of health and physical education in the public schools, and

WHEREAS, the AAHPER is proposing research studies to assess and improve the physical education programs in this country, and

WHEREAS, the AAHPER has expressed an interest in working with the teacher training institutions to upgrade present programs and provide inservice training for teachers now in the field,

BE IT RESOLVED that the National College Physical Education Association go on record to support and cooperate with the American Association for Health, Physical Education, and Recreation in this endeavor.

Respectfully submitted,
Burris Husman
Chairman

Research Committee

At the 1964 meeting of the NCPEAM the membership authorized the establishment of a Standing Committee on Research. Essentially, the purpose of the committee is to organize and mobilize some of the energies within NCPEAM in an attempt to investigate some of the problems which continually plague college physical education.

While keeping in mind those factors which pose limitations on the work of a committee so designed, our efforts thus far have consisted of delineating the duties of the committee, reaching a consensus of opinion on the area of college physical education to receive priority attention, and identifying problems which could be realistically investigated. The basic instruction program is the area of greatest concern to the committee members. In these preliminary stages, the comprehensive report on problems and issues in physical education, presented by Lou Alley in 1961, has been of considerable value.

Presently the committee is in the process of attempting to reach some agreement with regard to the specific problem or problems to be initially investigated. In all probability the research projects initiated will involve a cooperative approach in that several institutions represented in the NCPEAM will be asked to take part.

The members of the Standing Committee on Research were appointed by President Nixon; these men are Gene Asprey, Dave Field, Burris Husman, Fred Kasch, George Moore, and Mike Reuter.

Respectfully submitted,
Fred B. Roby
Chairman

CONTINUING COMMITTEES

Operating Code Committee

The 1964 Committee under the chairmanship of Richard Donnelly made a thorough investigation and revision of the Operating Code. As a result, considerable time was required by the secretary to have the revised Code duplicated and copies sent the members of the Operating Code Committee. The committee members have not had time to make a thorough study of the revised code, and it is probably not wise to attempt a major overhaul each year. The chairman has studied the code and has noted a few trivial matters which will be brought to the attention of the secretary.

In a letter to the five members of the Committee, the chairman questioned the need for an Operating Code Committee. The committee members were asked to react to the following questions:

1. Is such a committee really necessary or beneficial to the Association?
2. Should not the various committees be responsible for their own operating codes?
3. Does a duplication of functions exist?

Three of the four replies received from committee members felt that the Operating Code Committee does fulfill a useful function.

With another year to study the Code, I am sure the Committee will offer a number of constructive suggestions. At the present time, I believe the Operating Code is in the best shape of its history.

Respectfully submitted,
Kooman Boycheff
Chairman

PRESIDENT'S COMMITTEES

Conant Committee

The Conant Committee was established as a president's committee by action of the Executive Council of the NCPEAM on January 10, 1964, in Dallas, Texas. Members named by the President included: Arthur E. Fourier, Reuben B. Frost, Chalmer G. Hixson, Fred B. Roby, Earle F. Zeigler, and Richard C. Havel, Chairman. It was the purpose of this committee to study the problem of the recommendation by James Conant in his book, *The Education of American Teachers,* that there is no need for graduate study in physical education for candidates in teacher preparation programs. The committee's functions were to: (1) develop liaison relationships with other interested physical education and education associations and groups which have a concern for this problem in order to keep the NCPEAM informed of activities of these associations and groups on this problem, and to ascertain how NCPEAM may be of most assistance to them; (2) recommend the actions the NCPEAM should take concerning this problem and report the committee's recommendations to the Executive Council meeting of the NCPEAM to be held in Washington, D. C., in May at the time of the annual conference of the AAHPER.

Communications were initiated by the committee chairman with the president of the NAPECW and the chairman of the Professional Preparation Panel of the AAHPER. Opinions and suggestions were solicited from individual members of the President's committee and from the membership of the NCPEAM through a request in the May Newsletter. Through correspondence it was determined that the Professional Preparation Panel of the AAHPER had undertaken to develop a statement for the profession in answer to Dr. Conant's comments.

At the Executive Council Meeting of the NCPEAM in Washington, D.C., on May 10, 1964, Dr. John E. Nixon, President, was delegated the authority to represent the NCPEAM in working closely with the AAHPER group selected to draft the statement. This he did, and the finished document sent to Dr. Conant on August 14, 1964, carried official NCPEAM approval.

Copies of this statement were mailed to members of the committee for their information. It is hoped that ultimately a meeting will be arranged with Dr. Conant and representative members of the profession. It is recommended that the Conant Committee of the NCPEAM, having discharged its functions, be dissolved.

Respectfully submitted,
Richard C. Havel
Chairman

Construction and Equipment Committee

The Construction and Equipment Committee was reactivated in 1964 following several years in which the Committee did not exist. The members of the Committee felt that the year should be spent in identifying the scope of activities which the Committee should consider and the types of projects which would be of greatest value to the members of the National College Physical Education Association for Men. It was the feeling that such a committee as this has a definite function to perform, but that the projects should be chosen with care so as to be most useful and still be within the work load of each individual committee member in any selected project.

Approaching the task of the Committee from this point of view, it appeared that two projects might be considered, each closely related, and one somewhat dependent upon the other. It is therefore suggested that the Committee andertake the following

The Committee would serve as a repository for photographs, blueprints, floor plans, or other substitutes for blueprints of highly regarded and functional facilities which have recently been completed. This clearinghouse of material would prove of tremendous value to those contemplating new construction or modifications of existing ones, particularly if consideration were given to plans for multiple use of areas and facilities and for procedures that would make maximum use of these facilities. This should be a continuing project with periodic displays of these materials made available at the annual meeting of the Association.

The material which is received in this respository should be critically analyzed by the Committee from the point of view of construction problems, special conveniences, and unusual features in the several facilities. This information could be used in the future for the development of a descriptive brochure of information on buildings which would be particularly useful to those anticipating changes in present facilities or contemplating new construction of physical education buildings. This would be a long-range project of the Committee, with a target date set sometime in the future.

Respectfully submitted,
John W. Masley
Chairman

Conference Time and Site Committee

The NCPEAM President's Committee on Conference Time and Site herewith submits its recommendations for consideration:

1. Philadelphia, Pennsylvania, (northeast zone) should be the site of the 1965-66 annual meeting. This is consistent with the Central-Emphasis Site Selection plan approved by the Association at Dallas in January 1964 and with the Executive Council decision of May 10, 1964. President-Elect Arthur Weston is responsible for recommending a specific hotel and convention manager.

2. The Association held its last two meetings in January. The 1965-66 annual meeting in the northeast zone should be scheduled during the last week of December 1965 on the specific dates December 28, 29, and 30. An alternating December and January plan was recommended for the immediate future. In the meantime, it was suggested to mail-poll the membership to determine whether the Association should hold its future meetings in December, in January or alternately in December and January.

Unavoidably, the issue of a joint meeting with the NCAA enters discussions of time and site selection. Although a future joint meeting with or an Association meeting immediately prior to an NCAA meeting in the month of January might be feasible, the Committee has no strong recommendations on this at the present time. We note, however, that this subject has been discussed and is of interest to some of our NCPEAM members.

3. San Diego, California, (southwest zone) should be the site of the 1966-67 annual meeting. The time of this meeting is yet to be determined.

4. Because of continuing work, the President's Conference Time and Site Committee should be made a standing committee of the Association effective following the 69th Annual Meeting. It may be charged with the responsibility of selecting a specific site two years in advance. Its incompleted work consists of determining a firm time for the Association's annual meetings.

Respectfully submitted,
James P. Reid
Chairman

Educational Television Committee

This large and widely dispersed committee was unable to hold a meeting of its members during this past year. All of the business has been conducted by correspondence.

The committee, through its chairman, submitted its annual recommendation to the Midwest Program on Airborne Television Instruction, Purdue University, Lafayette, Indiana. Ben A. Bohnhorst, General Manager of MPATI has replied that the advisory groups which set recommended priorities for MPATI curricula will take our recommendation under consideration. Our Educational Television Committee has again volunteered its services as a consultant for the development of appropriate materials by MPATI.

For several years we have recommended the formation of a national committee by the AAHPER. This year such a committee has been organized in the Physical Education Division. The committee represents all levels of instruction in physical education and covers the country. All members of the committee have had some experience in the use of educational television in physical education. This committee will need the cooperation of the membership of NCPEAM.

In several state organizations for health, physical education, and recreation, committees on educational television have been formed. Dr. A. E. Florio of the University of Illinois, a member of NCPEAM, has been named chairman of one such committee in Illinois.

Our committee has continued to receive teacher manuals, course guides, and mimeographed materials concerning educational television in physical education. Of considerable interest is a mimeographed paper, "Some Suggestions for ETV Programming in Physical Education," compiled by Mrs. Ruth White Fink, University of North Carolina, Chapel Hill, North Carolina.

Another document of interest is the instructor's manual for the television lessons being used as a part of a basic physical education course at Kent State University, Kent, Ohio. The course includes ten videotaped programs. In addition a textbook workbook developed in conjunction with the course is now available.

The committee has received course outlines and teacher guides for physical education programs in elementary schools. Our collection of material continues to expand. The committee hopes to serve as a clearing house for such information as it develops in the schools and colleges of the country.

Requests for the information gathered by the committee through its studies have been received. We continue to supply the information we have available.

A number of new ventures in educational television have been reported to the committee:

1. The Department of Physical Education for Men, University of Washington, Seattle, Washington, has developed a series of programs including gymnastics, skiing, golf, and weight training. One of them, "How to Be a Gymnast," has been recorded and is available at KCTS-TV, University of Washington.

2. Oregon State University at Corvallis, Oregon, is conducting a course on Personal Hygiene over the Oregon State System of television. Carl L. Anderson is conducting the course and Donald B. Shaw is conducting the research: "A Comparison of the Effectiveness of Teaching General Hygiene by Closed Circuit Television and by Lecture Procedures." It is planned to complete the research project by the end of winter term, 1965. Some 1,400 freshmen have been pre-tested for knowledge in hygiene. Approximately half of these will take general hygiene by closed circuit TV. The other half will be taught in traditional sections by traditional methods. When the report of their study is completed copies will be available.

3. A thesis and a dissertation written at the University of Oregon, Eugene, Oregon, have been reported. They were (1) comparisons of the effects of conventional and television instruction upon attitudes and achievement in health education and (2) attitudes of college students toward certain aspects of a large-group health-education course televised at San Jose State College. These studies are available from the University of Oregon Library and are also on micro cards: #HE 67, #HE 74.

4. Mrs. Bonnie Gilliom, an experienced teacher of physical education via television, is presenting a portion of an elementary methods course in physical education via closed

circuit television. This project is being done at San Francisco State College, San Francisco, California.

5. The Department of Physical Education for Women at Kent State University, Kent, Ohio, has developed 10 video tapes for a required course in the physical education program for women. These tapes are titled: Introduction to H.P.E. 130, Relaxation, Flexibility, Strength, Endurance, Posture, Balance, Principles of Movement, Weight Control, and Rhythm.

A textbook-workbook and an instructor's manual have been developed for use in the course. Further information is available from Fay Biles, Department of Physical Education for Women, Kent State University, Kent, Ohio.

The following comment from one report indicates another possible development for television in physical education: "Presently discussions are underway to utilize this piece of apparatus (video tape recorder) research. I am hopeful that it can be used by our department in studying the use of the video tape recorder in the improvement of skill in such activities as acquatics, golf, tennis, badminton, gymnastics, etc."

While this committee has not conducted any project nor been unusually active, this report indicates a growing interest and concern with the modern medium of television in physical education. As a consequence, the Educational Television Committee recommends:

1. That the NCPEAM and its individual members encourage and conduct studies in the utilization of instructional television in physical education and health education;
2. That the NCPEAM and its individual members encourage schools and colleges to exploit the public service program time available on local commercial television stations;
3. That the NCPEAM through this committee make a concerted effort to cooperate with the Committee on the Utilization of Television in Physical Education recently formed by the AAHPER;
4. That the NCPEAM through this committee continue to collect and distribute information concerning the development of educational television in health and physical education by including in the annual proceedings a sheet on which information could be sent to the educational television committee during the next year.

Respectfully submitted,
Chalmer G. Hixson
Chairman

National Facilities Conference Report

The National Facilities Conference was held in the Biddle Continuation Center at Indiana University from Friday, January 15, through Sunday, January 24, 1965. It was attended by the best-qualified men in the country in facilities for health, physical education, and recreation.

The work of revising the 1965 Facilities Guide continued each day, with sessions lasting from 8:30 A.M. to 11:00 P.M. daily.

It is fully believed that the work will result in a modern and very valuable guide to facilities planners.

Respectfully submitted,
H. E. Kenney

JOINT COMMITTEES

Joint Committee on Physical Education for College Men and Women

The NCPEAM Joint Committee on Physical Education for College Men and Women met with the committees from AAHPER and NAPECW on May 8 and 9, 1964, in Washington, D.C., at the AAHPER National Convention. The following items of business were conducted:

1. Recommendations concerning the future of *The Case for Physical Education*, by John Friedrich. The Joint Committee recommended that the author revise his manuscript, and a deadline of January 1965 was set for this revision. It further recommended that Ross Merrick, AAHPER Staff Liaison, be consulted for approval and that funds be requested from the AAHPER 1964-65 budget for its publication. This matter was later referred to Dr. Joy Kistler, Vice-President of the Physical Education Division. After consulting with his Advisory Committee for this Division, Dr. Kistler advised that the Division could not accept responsibility for another publication at this time, because it was already committed to the support of a similar publication. Therefore, John Friedrich was advised not to revise his manuscript with the view of having it published by AAHPER.
2. Report of the Follow-Up Committee for the Washington Conference on Physical Education for College Men and Women. Fourteen reports were received by this committee from various state associations which held either section or general meetings using the Conference Guide as the outline for discussion. Some 131 colleges with 267 men and 264 women were involved in these meetings. In addition, 14 reports were received showing that various colleges held conferences in which their own and other faculties participated on a state or regional basis. Some 220 men and women representing 70 colleges participated in these conferences. Since little advance planning for future meetings was reported, it appeared that little could be gained through the continuation of the follow-up, and it was recommended that the formal reporting be discontinued. It was the concensus of members, however, that the follow up procedure had been most effective.
3. Report on the status of the President's Council on Physical Fitness and its relationship with the three organizations represented on the Joint Committee. Stan Musial, Executive Director of the Council, was acquainted with the purposes and function of the Joint Committee and at the same time was offered its assistance.
4. Report on the study of the government's role in supporting U. S. Olympic teams. After much discussion, the committee members agreed that such problems were not particularly related to the purposes and function of the Joint Committee, and that further study in this matter by our group be discontinued. However, the senior member of each parent organization was asked to write the officer of the appropriate division of his organization expressing "the concern of the Joint Committee that professional guidance be made available to those who make decisions concerning the manner in which U. S. Olympic teams are supported, and urging that the parent organization take action to insure that such guidance was utilized."

Respectfully submitted,
Harold M. Barrow
Chairman

CONSTITUTION

National College Physical Education Association for Men

ARTICLE I—NAME

Section 1—The organization shall be known as the NATIONAL COLLEGE PHYSICAL EDUCATION ASSOCIATION FOR MEN.

ARTICLE II—OBJECTIVES

Section 1—Objectives of the ASSOCIATION relate to the advancement of physical education in institutions of higher learning, including: the basic instructional program; intercollegiate athletics; intramural athletics; research; teacher education; and such other activities as may be assigned to a given college department. More specifically, the objectives are:

a. To improve the contributions of physical education, and where appropriate, the related fields of health education and recreation, to higher education.

b. To identify and define the major issues and problems confronting the profession, particularly those of higher education, and resolve them to the best possible ends.

c. To gather, analyze, interpret, and organize the research needed to resolve the major issues and problems facing the profession of physical education, especially those which are concerned with higher education.

d. To develop interdisciplinary relationships with kindred fields of knowledge for the light they may shed on the nature and values of physical education (e.g., anthropology, psychology, sociology, sports medicine, etc.).

e. To improve public relations through increasing public understanding of the nature and purposes of physical education in American and world life.

ARTICLE III—MEMBERSHIP

Section 1—The ASSOCIATION shall consist of members as hereinafter provided.

ARTICLE IV—GOVERNMENT

Section 1—The government of the ASSOCIATION shall be vested in an Executive Council, officers, committees, and members as hereinafter provided.

ARTICLE V—WESTERN DIVISION

Section 1—The Western College Men's Physical Education Society consisting of certain physical educators in the eleven western states shall be known as the Western Division of the National College Physical Education Association (Arizona, California, Colorado, Idaho, Montana, New Mexico, Nevada, Oregon, Texas, Utah, Washington).

ARTICLE VI—SECTIONS

Section 1—The ASSOCIATION may establish sections within its organizational structure as hereinafter provided.

ARTICLE VII—MEETINGS

Section 1—The ASSOCIATION shall conduct annual and special meetings as hereinafter provided.

ARTICLE VIII—AMENDMENTS

Section 1—This Constitution may be amended at any regular or special meeting of the ASSOCIATION, or by mail vote. A favorable vote of three-fourths (¾) of the members present at a regular or special business meeting, or a majority of the current membership by mail vote, shall be required for amendment; no mail vote shall be valid beyond thirty (30) days after official notification. In either case (regular or special meeting) a quorum must take action as hereinafter provided.

BY-LAWS

ARTICLE I—MEMBERSHIP AND DUES

Section 1—There shall be two (2) types of membership; active members and honorary life members. All members shall have equal voting privileges. Active members, only, shall pay dues—as provided in Sections 2, 3, and 4 below.

Section 2—Active members are men actively engaged in teaching or administering one or more components of college physical education, men with teaching experience pursuing graduate study, or men engaged or interested in allied fields.

a. The Membership Committee, as provided in Article IX, Section 4, shall review the qualifications of all applicants for active membership and report its findings to the Secretary-Treasurer. A satisfactory report by the Membership Committee shall empower the Secretary-Treasurer to carry the person on the membership roster, so long as he remains in good standing as provided in the following section.

Section 3—Active membership dues shall be ten dollars ($10.00) per fiscal year—as provided in Article XI, Section 5—payable to the Secretary-Treasurer upon official notification by him. Members delinquent in their annual dues for a period of one (1) year shall be dropped from the rolls; reinstatement consists of paying the annual current dues.

Section 4—Honorary Life membership may be conferred upon Active members or former Active members by a two-thirds (⅔) affirmative vote at a regular business meeting. Honorary life members shall enjoy all the rights and privileges of active members except the payment of dues.

ARTICLE II—EXECUTIVE COUNCIL

Section 1—The Executive Council shall consist of the President, President-Elect, the immediate Past President, the Secretary-Treasurer, one (1) Member-at-Large, and all elected Section Chairmen as provided in Articles III, IV, and VI below. All members of the Executive Council shall have equal voting powers. Any person holding office in the association must be an active member.

Section 2—The Executive Council shall manage the general affairs of the ASSOCIATION, except as hereinafter specified. These general affairs shall consist of: (a) fulfilling directives given to it by the membership at the annual business meeting, or by mail vote; (b) presenting matters of policy to the membership at the annual business meeting, or by mail vote, for adoption or ratification; (c) acting for the ASSOCIATION between annual meetings; and (d) maintaining an active professional program through the year.

ARTICLE III—OFFICERS AND DUTIES

Section 1—Officers of the ASSOCIATION shall consist of the President, President-Elect, and Secretary-Treasurer. Any person holding office in the association must be an active member.

Section 2—The President shall preside at all ASSOCIATION and Executive Council meetings, and appoint all committees as prescribed in Article IX. He shall call and make appropriate arrangements for the place and conduct of all meetings of the ASSOCIATION and Executive Council as provided in Article VII. He shall supervise the program planning for all ASSOCIATION meetings as provided in Section 33 below. He shall provide for an annual audit of the Secretary-Treasurer's accounts as provided in Section 4 below. He shall serve as an ex-officio member of all committees as provided in Article IX. He shall be authorized to sign checks in the absence of Secretary-Treasurer.

Section 3—The President-Elect shall, during the absence of the President, perform all duties of the President, and, if the office of the President becomes vacant, the President-Elect shall succeed to the presidency for the unexpired term. The President-Elect shall succeed to the presidency at the normal expiration of the President's term of office as provided in Article IV. The President-Elect shall plan the ASSOCIATION program for its regular annual meeting, under the supervision of the President as stipulated in Section 2 above.

Section 4—The Secretary-Treasurer shall perform all duties usually incumbent upon these offices, edit and cause to be published the Proceedings of the annual meeting and other publications, in accordance with Article X, collect dues, pay ASSOCIATION bills on approval by the President, assume general charge of all monies belonging to the ASSOCIATION, render a financial account to members at the annual business meeting, and conduct mail voting procedures as authorized by the President. The Secretary-Treasurer shall be bonded by the ASSOCIATION to the sum of five thousand dollars ($5,000.00) per annum. He shall receive the sum of three hundred dollars ($300.00) per year for clerical and other services, if funds permit as determined by the Executive Council.

ARTICLE IV—ELECTION OF OFFICERS AND THE COUNCIL MEMBER-AT-LARGE

Section 1—A nominating committee consisting of the three immediate past presidents shall be instructed by the President to prepare a slate of at least two names for the office of President-Elect and Council Member-at-Large, the retiring President to serve as Chairman. If the Nominating Committee desires, it may submit only the name of the incumbent Secretary-Treasurer for re-election. Additional nominations may be made from the floor at the annual business meeting. A majority vote, with a quorum present, shall be required for election; if no candidate receives a majority on the first ballot, the two candidates receiving the highest number of votes shall then be voted upon. Elections shall be by secret ballot.

Section 2—Officers and the Council Members-at-Large shall be elected for one (1) year, extending from the close of the annual meeting at which they are elected to the close of the next annual meeting at which their successors are elected. If, for some unusual reason a quorum be not present at the election of officers—as provided in Article VIII, Section 1—the incumbent officers and Council Member-at-Large shall remain in their respective positions for the ensuing year.

Section 3—The President, President-Elect, and Council Member-at-Large shall not immediately succeed themselves in the same office, except as specified in Section 2 above. The Secretary-Treasurer may be re-elected from year to year at the pleasure of the membership.

Section 4—Vacancies, except as provided in Article III, Section 3, shall be filled by the Executive Council pending the regular election.

ARTICLE V—WESTERN DIVISION

Section 1—The Western Division will be represented on the Executive Council only as its members might be elected to it (Executive Council) in the regular course of events as National College Physical Education Association members.

Section 2—The Western Division shall have one session at the National College Physical Education Association meeting whenever it is held in any of the eleven western states, in place of their regular annual meeting, and the president of the Western Division shall be responsible to the President-Elect of the National College Physical Education Association for this program just as any section chairman is responsible to him for his program.

Section 3—The purposes of the Western Division shall be consistent with the purposes of the National College Physical Education Association as stipulated in Article II of its constitution.

ARTICLE VI—SECTIONS

Section 1—The ASSOCIATION may establish sections within its organizational structure to promote the activities of professional interest groups. Examples are: basic instructional programs; intramural athletics; teacher education; intercollegiate athletics; research; history of sport; and others.

Section 2—The membership may authorize the establishment of any given section at a regular business meeting by a majority vote upon written application by twenty-five (25) current members stating the purpose and function of the proposed section and upon recommendation by the Executive Council—provided a quorum takes action as prescribed in Article VIII.

Section 3—Each section shall elect its own officers consisting of a Chairman, Chairman-Elect, and Secretary at the annual section meeting. A Nominating Committee consisting of three (3) section members shall be appointed by the Chairman at least three months preceding the annual section meeting at which the section officers will be elected. The Nominating Committee shall prepare a slate of two (2) names for each office. Additional nominations may be made from the floor. A majority vote shall be required for election. If there are more than two (2) candidates and no candidate receives a majority on the first ballot, the two candidates receiving the highest number of votes shall then be voted upon. Elections shall be by secret ballot. Any person holding office in the association must be an active member.

Section 4—Section officers shall be elected for one year, extending from the close of the meeting at which they were elected to the close of the next annual meeting at which their successors are elected. Section officers shall not immediately succeed themselves in the same office.

Section 5—The Chairman shall preside at all section meetings which shall be open to the entire ASSOCIATION membership. He shall supervise the program planning for all section meetings held during the annual meetings of the ASSOCIATION. He shall also be responsible for pursuing professional activities throughout the year which are pertinent to the interests of the section. He shall be responsible for the conduct of section activities in a manner consistent with the intent and stated provision of the ASSOCIATION's Constitution and By-Laws. By virtue of his office as Section Chairman, he shall serve as a member of the Executive Council of the Association.

Section 6—The Chairman-Elect, during the absence of the Chairman, shall perform all the duties of the Chairman, and, if the office of the Chairman becomes vacant, the Chairman-Elect shall succeed to the chairmanship for the unexpired term. The Chairman-Elect shall succeed to the Chairmanship at the normal expiration of the Chairman's term of office. The Chairman-Elect shall plan the section program for its regular annual meetings under the supervision of the Chairman as stipulated in Section 5 above.

Section 7—The Secretary shall keep minutes of all business transactions at section meetings. These minutes shall be passed along to each succeeding Secretary, in order that the continuity of section activity may be maintained. He shall be responsible for forwarding all papers and reports given at section meetings to the Secretary-Treasurer of the ASSOCIATION for consideration for publication in the PROCEEDINGS.

Section 8—The ASSOCIATION may abolish a given section at a regular business meeting by a two-thirds (⅔) majority vote provided a quorum takes action as prescribed in Article VIII.

ARTICLE VII—MEETINGS

Section 1—The ASSOCIATION and its Executive Council shall each hold at least one annual meeting at the time and place designated by the Executive Council.

Section 2—Special meetings of the ASSOCIATION and/or the Executive Council may be called by the President upon authorization by the Executive Council.

ARTICLE VIII—QUORUM

Section 1—A quorum to conduct ASSOCIATION business at its regular annual meeting, or by mail vote, shall consist of not less than fifteen percent (15%) of the current membership. No mail vote shall be valid after thirty (30) days from the date upon which the question was mailed by the Secretary-Treasurer to the members for action.

Section 2—A quorum of the Executive Council shall consist of at least three-fifths $(^{3}/_{5})$ of the members, including the President, or the President-Elect duly authorized by the President to act for him.

ARTICLE IX—COMMITTEES

Section 1—Committees shall be designated as President's Committees, Continuing Committees, Standing Committees, and Joint Committees. Any person holding office in the ASSOCIATION must be an active member.

Section 2—President's Committees shall be appointed by the President and expire with his term of office.

Section 3—Continuing Committees shall be authorized by the membership at regular business meeting, or by mail vote. Continuing Committee members shall be appointed by the President and approved by the Executive Council. A continuing Committee is one whose assignment extends beyond the term of office for which the President is elected, but which deals with a specific project or problem of terminal nature. Such committees shall continue until discharged by official action of the membership at a regular business meeting, or by mail vote.

Section 4—Standing Committees shall be authorized by the membership at a regular business meeting, or by mail vote. Standing Committee members shall be appointed by the President and approved by the Executive Council. A Standing Committee is one assigned a given task which, of necessity, extends indefinitely. Such committees shall follow the policy of rotating membership and number of members as determined by the Executive Council, with no person appointed for a period to exceed three (3) consecutive years. Standing Committees presently authorized by the ASSOCIATION are: Constitution; Finance; Foreign Relations; Historical Records; Membership; Necrology; Resolution; Nominations; Convention Program; Policies; Public Relations; Operating Codes; and Research.

Section 5—Joint Committees shall be authorized by the Executive Council and appointed by the President. A Joint Committee is one that deals with a specific project or problem in cooperative relationships with one or more associations or organizations.

Section 6—Each Continuing Committee and Standing Committee shall prepare an operating code which is to be approved by the Executive Council.

Section 7—All committees shall report at each annual meeting as determined by the Executive Council.

ARTICLE X—PUBLICATIONS

Section 1—The official publication of the ASSOCIATION is the *Proceedings*, which contains a record of activities carried on throughout the year, culminating in the annual meeting.

Section 2—The Secretary-Treasurer shall be responsible for editing and publishing the *Proceedings* as soon as possible after each annual meeting, and for the distribution of free copies to all members in good standing.

Section 3—The Secretary-Treasurer shall arrange for the publication and distribution of such other materials as the Executive Council may direct.

ARTICLE XI—FINANCE

Section 1—Monies obtained by the ASSOCIATION shall be allocated to the: (a) operating budget; or (b) permanent fund.

Section 2—The operating budget shall contain those funds deemed necessary by the Executive Council to carry on the work of the ASSOCIATION throughout the fiscal year, including the annual meeting.

Section 3—The permanent fund represents those monies that accumulate from time to time in excess of the operating budget. The Secretary-Treasurer shall invest these sums upon recommendation by the Finance Committee (as defined in the following Section) and as approved by the Executive Council. The Executive Council may authorize the withdrawal of funds from the Reserve Account for use as the Executive Council sees fit.

Section 4—A standing committee, known as the Finance Committee and conducting its affairs under the direction of the Executive Council, shall: (a) prepare annually the operating budget; and (b) make recommendations to the Executive Council on the investment of surplus funds.

Section 5—The fiscal year shall extend from December 1 to November 30.

Section 6—In the event of dissolution of the NCPEAM, all funds will be distributed equally among all active members.

ARTICLE XII—RULES OF ORDER

Section 1—Except as otherwise specified in this Constitution and By-Laws, Robert's Rules of Order shall govern all parliamentary procedure of the **ASSOCIATION.**

Section 2—The President shall appoint **a qualified parliamentarian** to serve at all **official** meetings of the **ASSOCIATION** and **Executive Council.**

ARTICLE XIII—AMENDMENTS

Section 1—These **By-Laws may** be amended at any regular or special meeting of the **ASSOCIATION,** or by **mail vote.** A favorable vote of two-thirds (⅔) of the members present at a **regular or special business meeting, or a majority of the current membership** by mail vote, **shall** be **required for amendment:** no mail vote shall be valid beyond thirty (30) **days after official notification. In either** case **(regular or special meeting)** a **quorum** must take **action** as **provided in Article VIII.**

MEMBERSHIP INFORMATION

1. **Membership** dues (**$10.00**) are payable to the National **College** Physical **Education Association** (not the Secretary-Treasurer). **Send payments** to D. O. Matthews, Division of **Intramural** Activities, **University** of **Illinois, Urbana, Ill.**
2. **College** and **university** drafts, **covering payment** for an individual's **membership, should clearly** indicate the **name** of the **person for** whom **dues** payment **should** be **credited.**
3. **Dues** entitle persons to **voting privileges** in the Association and to a **copy of the** ***Proceedings***, published **in the spring of each year.**

Honorary Members
1965

* Attended 1965 convention

(1) Past president

(2) Past secretary-treasurer

Alderson, Curtis J., Ed.D. (1950-59)
University of Texas
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Altman, George J., M.Ed. (1939-55)
202 Belmont
Los Gatos, California

Barr, J. Shober, M.A. (1954-62)
Franklin & Marshall College
Lancaster, Pennsylvania

Bilheimer, C. E., M.Ed. (1930-54)
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Gettysburg, Pennsylvania

Brown, Hubert E., Ph.D. (1947-58)
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Brownell, Clifford L., Ph.D. (1930-61)
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Bullock, James E., M.A. (1936-60)
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Campbell, Walter, M.Ed. (1928-53)
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Hansen, Canute, D.D.S. (1926-55)
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Jones, John O., M.S. (1948-62)
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Brinley, Eldon D., Ed.D. (1943)
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Augustana College
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